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Welcome to Montpellier, Welcome to CSA 2015!

On behalf of Agropolis International, CIRAD, INRA and IRD, it is our pleasure to welcome you to Montpellier, home to a large scientific community in the fields of agriculture, food, biodiversity and the environment, with about 2700 research scientists and lecturers.

CSA 2015 is the third international conference in a successful series on Climate-smart agriculture (CSA) that was launched by Wageningen University and Research in the Netherlands, in 2011. It then moved to the University of California, Davis, USA in 2013. Over these four years, the concept of climate-smart agriculture has spread worldwide. It is now attracting the attention of many scientists, policy makers, developers, farmers, as well as other stakeholders including the public. Yet, we all know that the scientific validity of the concept needs to be fostered. To simultaneously achieve food security, adaptation and mitigation is not an easy task. Skills from all disciplines, at all scales and in diverse environments, are required.

Such is the objective of the Montpellier CSA 2015 Conference: confront expert knowledge to update the CSA science foundation, showcase key scenarios for agriculture and food systems, identify priorities for action, interface with the policy context and design a roadmap for future research on CSA.

When putting together this event over the past months, we were greatly encouraged by the huge interest from the global scientific community, with about 700 high-quality abstracts submitted, clearly showing that the global challenge of CSA is both vibrant and increasingly addressed. Strong support was also received from different organizers and sponsors, allowing us to invite many keynote speakers and fund the participation of more than 50 young researchers from developing countries. Let us warmly thank all those who made this possible.

Many people have to be thanked for working hard towards the preparation of the conference: the Organizing Committee and the Communication Committee did a wonderful job on all organizational matters: ranging from choosing the venue, to searching for sponsors, organizing social events, publicizing the conference and many more tasks which are necessary to make such an event a success. The contribution and sound advice from CCAFS and the CGIAR Consortium, Wageningen University and Research, the University of California Davis, FAO and GFAR made it possible to structure a world-class event. In addition to financial contributions from all the institutions quoted here, special thanks are due to the French Ministry of Agriculture, Agrifood and Forestry and to the French Ministry of Foreign Affairs and International Development who generously supported the conference, as well as to the Région Languedoc-Roussillon, the Montpellier Méditerranée Métropole, Agropolis Fondation (Labex Agro) and Labex Cemeb.

The CSA 2015 International Scientific Committee deserves warm thanks for designing the scientific program, identifying session topics and keynote speakers as well as selecting oral and poster contributions and their allocation to the different parallel sessions. Several staff from our institutions worked hard and cannot be thanked one by one. We are very grateful to all.

We very much hope that you will enjoy your stay in Montpellier and benefit from exciting scientific interactions.

Dr Jean-François Soussana, INRA, Chair, CSA Scientific Committee
Dr Patrick Caron, CIRAD, Chair, CSA Organizing Committee
Committees

Scientific Committee

Jean-François Soussana, Chair, INRA, France
Martial Bernoux, IRD, France
Mercedes Bustamante, UnB, Brasil
Bruce Campbell, CCAFS, Denmark
Harry Clark, NZAGRC, New Zealand
Sandra Diaz, UNC, Argentina
Arona Diedhiou, IRD, Sénégal
Hongmin Dong, CCAS, China
Vincent Gitz, HLPE/FAO
Mark Howden, CSIRO, Australia
Harry Palmier, GFAR, Italy
Leslie Lipper, FAO, Italy
Hermann Lotze-Campen, PIK, Germany
Eddy Moors, WUR, The Netherlands
Jerry Nelson, IFPRI, USA
Ursula Oswald Spring, CRIM, Mexico
Martin Parry, Imperial College London, UK
John Porter, U. Copenhagen, Denmark
Mirjam Pulleman, WUR, The Netherlands
Marta G. Rivera Ferre, UVIC, Spain
Cynthia Rosenzweig, GISS, USA
Pete Smith, U. Aberdeen, UK
Emmanuel Torquebiau, CIRAD, France
Maria Isabel Travasso, INTA, Argentina
Robert Zougmore, CGIAR/ICRISAT, Mali

Organizing Committee

Patrick Caron, Chair, CIRAD, France
Jean-Luc Chotte, Co-Chair, IRD, France
Bruce Campbell, CCAFS, Denmark
Irina Carpusca, INRA Transfert, France
Mathias Ginet, Ministère de l’Agriculture, de l’Agroalimentaire et de la Forêt, France
Bernard Hubert, Agropolis International, France
Ludovic Larbodière, Ministère de l’Agriculture, de l’Agroalimentaire et de la Forêt, France
Josette Lewis, UC DAVIS, USA
Leslie Lipper, FAO, Italy
Harry Palmier, GFAR, Italy
Jean-François Soussana, INRA, France
Emmanuel Torquebiau, CIRAD, France
Jan Verhagen, WUR, The Netherlands
Alain Vidal, CGIAR Consortium, France
Claire Weill, INRA, France

Local Organizing Committee

Brigitte Cabantous, Agropolis International, France
Chantal Carrasco, CIRAD, France
Jean-Luc Chotte, IRD, France
Nathalie Curiallet, CIRAD, France
Géraldine Lett, CIRAD, France
Michelle Tigny, IRD, France
Emmanuel Torquebiau, CIRAD, France

Communication Group

Nathalie Curiallet, CIRAD, France
Dominique Fournier, INRA, France
Anne Hébert, CIRAD, France
Géraldine Lett, CIRAD, France
Béatrice Louvet-Bacle, CIRAD, France
Vanessa Maedu, CIAT-CCAFS
Christine Riou, INRA, France
Valérie Rotival, IRD, France
Pineda Sherwin, CGIAR Consortium, France
Emmanuel Torquebiau, CIRAD, France
Nathalie Villeméjeanne, Agropolis International, France
Jérémy Zuber, INRA, France

Website and Communication

Nathalie Curiallet, CIRAD, France
Philippe Radigon, CIRAD, France

Design

Delphine Guard, CIRAD, France

Host institutions

CIRAD
www.cirad.fr
Contact: Emmanuel Torquebiau
Chargé de mission Changement Climatique
Climate Change Correspondent
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Climate Change Correspondent
INRA, 147 rue de l’Université 75338
Paris Cedex 07
France
claire.weill@paris.inra.fr
Organizers

In partnership with
Montpellier and its surroundings

Montpellier has become over the past decades, a major hub for research on agriculture, environment and sustainable development issues. Montpellier is also one of the oldest University cities in France (XIIIth Century). It is located on a hilly ground, 10 kilometers inland from the Mediterranean Sea coast. The medieval center, the so-called Ecusson, gives the city its unique and intimate feeling.

Public transport (TAM)
Tickets can be bought from the automatic machines at each tramway station. The tramway Line 1, decorated in blue with white swallows, connects the northern part of the city with the Odysseum terminal on the southeast side. Line 2, decorated in a flower-power theme, goes from east to west. The colorful Line 3, designed by the famous fashion designer Christian Lacroix, goes from west to east, arriving near the seaside at Perols. From there, you can rent a bike or take a short walk (around 20 minutes) to get to the beach. The golden Line 4, also designed by Christian Lacroix, is only for downtown. About 30 bus lines are connected to the tramway lines to offer a comprehensive network that will transport you in and around Montpellier. Le Corum conference centre is at walking distance from Le Corum and Comédie tramway Stations.

TAM Ticket fares:
One-way ticket: € 1.50
1-day pass: € 4.00
7-days pass: € 6.00
10-ride pass: € 10.00

Vélomagg' bicycle service
The Vélomagg’ service offers bicycles just the way you want them: available and inexpensive. For your riding pleasure, 50 automatic bike stations with over 2,000 bicycles are available in Montpellier and in the Métropole area. Service is open 24/7. All you need is personal identification and you can rent a bicycle to ride the streets of the city and outlying area. You can buy tickets at the Esplanade bike station (next to Montpellier Tourist Office).

Restaurants
A large variety of restaurants, cafés and bars can be found all over Montpellier, with a very large selection available at walking distance from Le Corum conference centre. Some of them are open late at night. Prices for a menu usually start at €12 for lunch and €20 for dinner.
Places of interest in Montpellier

Getting around
Montpellier is the ideal place to stay and take advantage of both the seashore of Southern France and the many hidden treasures in the hinterlands of the Région Languedoc-Roussillon. Discover major UNESCO World heritage sites, scenic villages and landscapes, vineyards and vast natural areas such as the Camargue marshland and the Cévennes mountains.

Natural sites
Camargue marshes, with pink flamingos, ranches with black bulls and white horses, Cévennes mountains, great for biking, mountain biking or bushwalking,
Pyrénées mountains, between Spain, Andorra and Ariège, Mediterranean coastline, with many swamps near Montpellier, rocks and cliffs when getting near the Spanish border, in the scenic Côte Vermeille.

Historic cities
Nîmes, living Roman history (45 kms from Montpellier), Sète, the fascinating birthplace of famous musician Georges Brassens and poet Paul Valéry, located between the Mediterranean Sea and the Thau lagoon, famous for its oyster farms (30 kms), Pézenas, Molière's hometown (60 kms), Aigues-Mortes, the medieval city of Saint Louis (30 kms), Collioure, capital of Fauvism painting (190kms).

UNESCO World heritage sites
The colossal walled city of Carcassonne, a magnificent medieval city with its ramparts, the Basilique de St Nazaire and Château Comtal, The Pont du Gard, an impressive Roman aqueduct, The Canal du Midi, a beautiful canal with a succession of straitslocks and tunnels, The medieval Abbaye de Gellone, located in the beautiful village of Saint-Guilhem-le-Désert on the route to Saint Jacques de Compostelle, The Causses (elevated calcareous plateaux) and the unique Cirque de Navacelles.

Social program
The Welcome cocktail will be held at Le Corum on Monday, 16 March, 19:00-21:00.

The Gala dinner will be held at the Chateau de Pouget on Tuesday, 17 March, 18:30-24:00. Buses will leave at 18:30 from Le Corum, Level 0. The Chateau de Pouget is a magnificent castle, dating back to the 12th century, renovated in the 18th century and surrounded by vineyards. It is is located mid-way between Montpellier and Nîmes.

Post-conference visits
Visit 1: Climate change adaptation in viticulture and enology at the INRA experimental wine farm of Pech Rouge: Innovation technologies for Climate Change adaptation in Viticulture and Enology, New management and enological practices for the improvement of wine quality and adaptation to Climate Change. – Departure from Tramway station Occitanie at 08:30

Visit 2: Agroforestry and climate change in a Mediterranean setting at the INRA Restinclières experimental farm: The Restinclières plots are the most mature agroforestry plots under uninterrupted study in Europe. They allow understanding the behaviour of Agroforestry systems on the long term, including the impact of Climate Change – Departure from Tramway station Occitanie at 08:45.

Visit 3: Montpellier’s research infrastructures tour: Quarantine facilities for studies on tropical plant pathogens and related hosts (UMR DIADE & IPME), Regional genotyping technology platform (UMR AGAP), European Ecotron (CNRS), Quarantine Ecotrop Platform (UMR ECO & SOLS), Montpellier Plant Phenotyping Platforms (UMR LEPSE) – Departure from Tramway station Occitanie at 09:00.

Insurance
French health care does not cover visitors to France. Please ensure that you have a suitable insurance coverage in the event of illness or accident. The Organizing Committee will not accept liability for personal injuries sustained by, or for loss or damage to property belonging to the participants.
Practical information about Le Corum

Venue

*Le Corum* conference centre, Esplanade Charles De Gaulle, BP 2220, 34000 Montpellier – Tel: +33 (0)4 67 61 67 61

It is located in the city centre of Montpellier, a few minute’s walk from *Corum* and *Comédie* tramway stations.

Registration

**Participants** should check in at the Welcome desk, Level 0 – Tel: +33 (0)4 67 61 66 64.

Open on Sunday 15 March, from 16:00 to 18:30 – Monday 16 March: from 7:30 to 19:00 – Tuesday 17 March: from 8:00 to 18:30 – Wednesday 18 March: from 8:00 to 18:30.

**Media delegates** are expected to check in at the Welcome desk, Level 0.

**Badges** are required for admission to all conference sessions, to the exhibition hall and the lunch area.

Preview room

Located in Room Sully 3bis, Level 1.

Sunday 15 March: open from 16:00 to 18:30.

Monday 16 March to Wednesday 18 March: open from 8:00 to 19:00.

It will not be possible to upload presentations directly in the conference lecture room (Auditorium Pasteur) nor in any of the parallel sessions rooms.

Abstracts

Abstracts for oral and poster presentations are available on the website and on the memory stick.

Poster exhibitions

It is located in the *Exhibition hall, Level 0*. It will remain accessible throughout the conference.

**Poster presenters** should register at the Welcome desk at their arrival, where they will be allocated a display panel. Please note: *Posters for Sessions L1, L2 and L3* will be exposed on Monday, Tuesday and Wednesday respectively.

Internet access

Wifi will be accessible in the Pasteur Auditorium, in Parallel Sessions rooms and in the Exhibition Hall, Level 0. **Access code: csa15 – Password: csa15.**

A Cyber Café will be available during the whole conference next to the Welcome desk at Level 0.

Catering information

Participants will be served a lunch box everyday at Level 3, upon presentation of their badges. Coffee breaks will be served at Level 0.

Participants are kindly asked not to take food or beverages to the sessions rooms.

Messages

A message board is located adjacent to the Welcome desk at Level 0. Messages may be left at the Welcome desk or pinned to the board. No responsibility will be taken to deliver messages personally, so please check this board at regular intervals.

Cloakroom

It is located next to the Welcome desk at Level 0.

Lost property

Please report any lost property to the Welcome desk, Level 0.

Smoking

*Le Corum* is a designated non-smoking venue.

Taxis in Montpellier

- Taxi Tram – Tel: +33(0)4 67 58 10 10
- Allo Taxi 34 – Tel: +33(0)4 67 81 42 74
- Taxi Bleu – Tel: +33(0)4 67 03 20 00
- Taxi Radio du Midi – Tel: +33(0)4 67 10 00 00

Doctor

Montpellier Emergency Hospital
Hôpital Lapeyronie, Avenue Charles Flahaut
Tel: 04 67 33 81 67 or 04 67 33 81 68

Alternatively, please contact *Le Corum* Reception desk for any assistance – Tel: +33(0)4 67 61 67 61
Maps of Le Corum

Berlioz Hall - Level 0

Level 1
# Program overview (may be subject to change)

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday, 15 March</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Special Plenary Keynote on CSA Science Policy Framework for the Future, Building Blocks of CSA</td>
</tr>
<tr>
<td>09:00</td>
<td>Plenary 1: Opening</td>
</tr>
<tr>
<td>10:00</td>
<td>Coffee break</td>
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<tr>
<td>11:00</td>
<td>Plenary 2: Global dimensions of sustainability and adaptability: challenges and opportunities for climate change and climate-resilient agriculture</td>
</tr>
<tr>
<td>13:00</td>
<td>Parallel sessions L1: Regional dimensions S: Poster session</td>
</tr>
<tr>
<td>14:00</td>
<td>Parallel sessions L1: L1. Regional dimensions S: Poster session</td>
</tr>
<tr>
<td>15:00</td>
<td>Postersession with coffee break</td>
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<tr>
<td>16:30</td>
<td>Plenary 1: Keynote continued</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Tuesday, 16 March</th>
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<tbody>
<tr>
<td>09:00</td>
<td>Plenary 3: Novelties for Climate-Smart Agriculture, Innovative &amp; adapted farming &amp; land management models</td>
</tr>
<tr>
<td>11:00</td>
<td>Coffee break</td>
</tr>
<tr>
<td>12:00</td>
<td>Coffee break</td>
</tr>
<tr>
<td>13:30</td>
<td>Plenary 4: Feedback from L1 parallel sessions (towards Regional Science agendas)</td>
</tr>
<tr>
<td>15:30</td>
<td>Plenary 5: Special Keynote on Land degradation, desertification, poster session</td>
</tr>
<tr>
<td>16:00</td>
<td>Keynote Speakers lectures</td>
</tr>
<tr>
<td>17:00</td>
<td>Plenary 6: Round Table on What are the opportunities for Foresight and Early Warning Systems?</td>
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<tr>
<th>Time</th>
<th>Wednesday, 17 March</th>
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<tbody>
<tr>
<td>09:00</td>
<td>Plenary 7: Special Keynote on Climate change, risks, adaptation, and sustainability: from the global to the local, poster session</td>
</tr>
<tr>
<td>11:00</td>
<td>Poster session with coffee break</td>
</tr>
<tr>
<td>12:00</td>
<td>Coffee break</td>
</tr>
<tr>
<td>13:00</td>
<td>Plenary 8: Special Keynote on Agriculture, innovation, and climate change, poster session</td>
</tr>
<tr>
<td>15:30</td>
<td>Plenary 9: Special Keynote on Food security &amp; food sovereignty, poster session</td>
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<tr>
<th>Time</th>
<th>Thursday, 18 March</th>
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</thead>
<tbody>
<tr>
<td>08:00</td>
<td>Plenary 10: Towards a CSA science framework: From Montpellier to the next CSA conference, Formal Closing session</td>
</tr>
<tr>
<td>10:00</td>
<td>Conference Gala dinner at Château de Montpellier</td>
</tr>
<tr>
<td>18:00</td>
<td>Award Ceremony: best papers, posters, and food &amp; wine prize for fine food in agriculture, food security, and climate change</td>
</tr>
<tr>
<td>19:30</td>
<td>Evening Cocktail starting at 19.00</td>
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## Detailed schedule

### Sunday 15 March 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>16:00−18:00</td>
<td>Registration</td>
</tr>
<tr>
<td>18:15−19:45</td>
<td><strong>Keynote lecture</strong> &quot;We are all in the same boat: food production and food security under threat by climate change&quot; by Professor Sir Gordon Conway, Director, Agriculture for Impact, Imperial College London AUDITORIUM EINSTEIN</td>
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### Monday 16 March 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>07:30−09:00</td>
<td>Registration</td>
</tr>
<tr>
<td>09:00−10:30</td>
<td><strong>Plenary 1: Opening Ceremony</strong> – AUDITORIUM PASTEUR</td>
</tr>
<tr>
<td></td>
<td><strong>Anne-Marie Descôtes</strong>, Director General for Global Affairs, Development and Partnerships, French Ministry of Foreign Affairs and International Development</td>
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<td></td>
<td><strong>Yves Pietrasanta</strong>, Vice-President of Région Languedoc-Roussillon, on behalf of Damien Alary, President of Région Languedoc-Roussillon</td>
</tr>
<tr>
<td></td>
<td><strong>Isabelle Touzard</strong>, Vice-President of Montpellier Méditerranée Métropole, on behalf of Philippe Saurel, President of Montpellier Méditerranée Métropole and Mayor of Montpellier</td>
</tr>
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<td></td>
<td><strong>Mihail Dumitru</strong>, Deputy Director General, DG Agriculture and Rural Development, European Commission</td>
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<td></td>
<td><strong>François Houllier</strong>, Executive Chair of INRA, also on behalf of Michel Eddi, Executive Chair of CIRAD, Jean-Paul Moatti, Executive Chair of IRD and Bernard Hubert, Chair of Agropolis International</td>
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<td></td>
<td><strong>Ren Wang</strong>, Assistant Director-General of the Agriculture and Consumer Protection Department at the FAO</td>
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<td><strong>Juan Lucas Restrepo Ibiza</strong>, Chair of the Global Forum on Agricultural Research (GFAR) and Executive Director of CORPOICA (Colombia)</td>
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<td><strong>Frank Rijsberman</strong>, CEO, CGIAR Consortium, Montpellier, France</td>
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<td><strong>Prof. Dr. M.J. Kropff</strong>, Vice chairman of the Executive Board of Wageningen UR, Rector Magnificus Wageningen University</td>
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<td></td>
<td><strong>Linda Katehi</strong>, Chancellor, University of California, Davis</td>
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<tr>
<td></td>
<td><strong>Patrick Caron</strong>, Director General for Research and Strategy, CIRAD</td>
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<td></td>
<td><strong>Jean-Luc Chotte</strong>, Co-chair of the CSA2015 Organizing Committee, IRD</td>
</tr>
<tr>
<td>10:30−11:00</td>
<td><strong>Coffee Break</strong> – Level 0</td>
</tr>
<tr>
<td>11:00−13:00</td>
<td><strong>Plenary 2: Global Dimensions</strong> – AUDITORIUM PASTEUR</td>
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<tr>
<td></td>
<td><strong>Chair: Jean-François Soussana</strong></td>
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<td></td>
<td><strong>Hervé le Treut</strong> (IPSL): Climate-Change: from global alert to local studies</td>
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<td></td>
<td><strong>Ren Wang</strong> (FAO): Climate-Smart agriculture: conceptual framework and brief history (tbc)</td>
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<tr>
<td></td>
<td><strong>Mark Howden</strong> (CSIRO): From climate adaptation assessment to action and back again: a food system perspective</td>
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<td></td>
<td><strong>Pete Smith</strong> (University of Aberdeen): Supply and demand based greenhouse gas mitigation</td>
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<tr>
<td>13:00−14:00</td>
<td><strong>Onsite Lunch Break</strong> – Level 3</td>
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<tr>
<td>Time</td>
<td>Session Details</td>
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<tr>
<td>14:00−18:00</td>
<td><strong>Parallel sessions L.1: Regional Dimensions &amp; Poster Session</strong></td>
</tr>
</tbody>
</table>
| 14:00−15:00 | **Parallel session L.1.1: Africa – ROOM SULLY 1**  
- **Chair:** James Kinyangi  
- **Keynotes:**  
  - Maggie Opondo (University of Nairobi): Engendering climate resilient agricultural livelihoods in Africa  
  - Bruno Locatelli (CIRAD-CIFOR): Integrating Ecosystem-based Adaptation and Mitigation in Africa: Policy and Practice  
- **Poster Session & Coffee Break**  
  - *Oral presentations:*  
    - Tantely Razafimbelo (Antananarivo University): Climate smart practices impact soil organic carbon storage in Madagascar  
    - Katrien Descheemaeker (Wageningen University and Research): A modelling framework to assess climate change and adaptation impact on heterogeneous crop-livestock farming communities  
    - Henderson Ben (CSIRO): Closing yield gaps to increase food supply and mitigate GHG emissions for African smallholders  
    - Kindie Tefaye (CIMMYT): Potential for taking climate smart agricultural practices to scale: Examples from Sub-Saharan Africa |
| 15:00−16:30 |  
| 16:30−18:00 |  |
| 14:00−15:00 | **Parallel session L.1.2: Australasia – ROOM SULLY 2**  
- **Chair:** Frédéric Gay  
- **Keynotes:**  
  - Pramod Aggarwal (CGIAR, CCAFS): Climate-smart agriculture in South Asia: Opportunities and constraints in scaling out  
  - Imelda Bacudo (GAP-CC): Promotion of Climate Resiliency for Food Security in the Association of Southeast Asian Nations: Regional Policy Making and Funding Opportunities  
- **Poster Session & Coffee Break**  
  - *Oral presentations:*  
    - Tu Trinh Quang (RIA): Integrated rice-shrimp as a smart strategy to cope with climate change in the Mekong Delta, Vietnam  
    - Guillaume Lacombe (IWMI): Changing rainfall pattern in Northeast Thailand and implications for cropping systems adaptation  
    - Norman Uphoff (Cornell University): A review of contributions that the System of Rice Intensification (SRI) can make to climate-smart agriculture  
    - Sikka Ak (Indian Council of Agricultural Research): Development of climate resilient villages |
| 15:00−16:30 |  
| 16:30−18:00 |  |
| 14:00−15:00 | **Parallel session L.1.3: Latin America – ROOM SULLY 3**  
- **Chair:** Mirjam Pulleman  
- **Keynotes:**  
  - Pauline Aldunce (Universidad de Chile): Are we adapting to climate change? The case of the Chilean agricultural sector  
  - Maureen Arguedas-Marín (CATIE): Economic valuation of mangrove`s ecosystem services in Gulf of Nicoya, Costa Rica  
- **Poster Session & Coffee Break**  
  - *Oral presentations:*  
    - Michel Schlaifer (ECLAC): The experience in policy dialogue for agriculture and climate change in LAC countries: an overview  
    - Cecilia Turin (International Potato Center): Implications of losing the complementariness of gender roles on CSA strategies in the Peruvian Altiplano |
<p>| 15:00−16:30 |<br />
| 16:30−18:00 |  |</p>
<table>
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<tr>
<th>Time</th>
<th>Session Details</th>
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<tbody>
<tr>
<td>14:00−15:00</td>
<td><strong>Parallel session L.1.4: Europe – ROOM RONDELET</strong></td>
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<td><strong>Keynotes</strong></td>
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<tr>
<td></td>
<td>Patrik Kolar (European Commission): FACCE-JPI: an European partnering initiative to tackle food security and climate change—one of the greatest societal challenges</td>
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<tr>
<td></td>
<td>Niels Gøtke (Nordic Joint Committee for Agricultural and Food Research &amp; FACCE JPI)</td>
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<tr>
<td></td>
<td><strong>Poster Session &amp; Coffee Break</strong></td>
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<td><strong>Oral presentations</strong></td>
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<td>Stefan Fronzek (Finnish Environment Institute): Wheat yield sensitivity to climate change across a European transect for a large ensemble of crop models</td>
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<td>Vera Eory (SRUC): Economic assessment of greenhouse gas mitigation on livestock farms</td>
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<td>Natalie Trapp (Universität Hamburg): Agricultural Adaptation to Climate Change in the European Union</td>
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<td>R.M. Rees (Scotland's Rural College): Legume supported cropping systems for Europe (Legume Futures)</td>
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<tr>
<td>15:00−16:30</td>
<td><strong>Parallel session L.1.5: North America – ROOM BARTHEZ</strong></td>
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<td>16:30−18:00</td>
<td><strong>Keynotes</strong></td>
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<td>Charles Walthall (USDA ARS): Building Climate Smart, Sustainable, Intensive Agriculture For the 21st Century and Beyond</td>
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<td>Louise Jackson (UC Davis): Scientific Article Summarizing the 2013 CSA Global Science Conference in North America</td>
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<td><strong>Poster Session &amp; Coffee/Tea Break</strong></td>
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<td><strong>Oral presentations</strong></td>
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<td>Raj Khosla (Colorado State University): The 4-R nutrient stewardship and its role in climate smart agriculture</td>
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<td>Brenda V. Ortiz (Aubrun University): From climate variability to climate change: building adaptive capacity among row crop farmers in the Southeastern USA</td>
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<td>Samuel Sandoval Solis (University of California, Davis): Climate Smart Agriculture and Water Management in California</td>
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<td>Bruno Basso (Michigan State University East Lansing): Dealing with climate and yield variability: the role of precision agricultural technologies and crop models</td>
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<tr>
<td>18:00−19:00</td>
<td><strong>Award Ceremony: Louis Malassis International Scientific Prize for Agriculture and Food &amp; Olam Prize for Innovation in Food Security – AUDITORIUM PASTEUR</strong></td>
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<tr>
<td>19:00−20:30</td>
<td><strong>Cocktail – Hall, Level 0</strong></td>
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### Tuesday 17 March

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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>8:30–9:00</td>
<td>Special session: Talk by Mr. Stéphane Le Foll, French Ministry of Agriculture, Agrifood and Forestry</td>
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</table>
| 9:00–9:30  | Special Plenary Keynote on CSA Science-Policy interface: Bringing findings of CSA science to policy-makers – **AUDITORIUM PASTEUR**  
Chair: Jean-Luc Chotte  
Amadou Allahouy (Niger President Office, HLPE): Bringing findings of “CSA science” to policy makers |
| 9:30–12:00 | Plenary 3: Key Questions for Climate-Smart Agriculture – **AUDITORIUM PASTEUR**  
Chair: Jean-Luc Chotte  
Holger Meinke (University of Tasmania): Adaptation, Resilience and Climate Smart Agriculture – from concepts to action  
Mercedes Bustamante (University of Brasilia): Sustainable intensification and mitigation |
| 10:30–11:10 | **Coffee Break – Level 3** |
| 11:00–12:00 | Pablo Tittonell (Wageningen University and Research): Agroecology is climate smart  
Sonja Vermeulen (CCAFS) and John Porter (NRI): Climate-smart food systems |
| 12:00–12:30 | Special Plenary Keynote on Land degradation, Desertification – **AUDITORIUM PASTEUR**  
Chair: Jean-Luc Chotte  
Bill Payne (University of Nevada): The Tragedy of the Commons Revisited: Land Degradation and Desertification on Public Lands |
| 12:30–14:00 | **Onsite Lunch Break – Level 3** |
| 14:00–18:00 | Parallel sessions L2: Climate-smart Strategies & **Poster Session** |
| 14:00–15:00 | Parallel session L2.1: Developing and evaluating climate-smart practices – **ROOM SULLY 1**  
Chair: Munyaradzi Chitakira  
Keynotes  
Bruce Campbell (CCAFS): Developing and evaluating climate-smart practices and services  
Martial Bernoux (IRD): Evaluating agricultural mitigation and scaling up climate-smart practices using the FAO EX-Ante Carbon-balance Tool |
| 15:00–16:30 | **Poster Session and Coffee Break**  
**Oral presentations**  
Byomkesh Talukder (Wilfrid Laurier University): Rain water-based integrated agricultural system: A model for ensuring food security and adaptation in coastal Bangladesh  
Hidalgo D. Medina (Commonwealth Scientific and Industrial Research Organization): Additive impacts of climate-smart agriculture practices in mixed crop-livestock systems in Burkina Faso  
Ijeoma Emenanjo (The World Bank Group): Developing Indicators for Climate-Smart Agriculture (CSA)  
Jan Verhagen (Wageningen UR): Towards metrics to track and assess climate smart agriculture |
| 16:30–18:00 |  

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<tr>
<th>Time</th>
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<th>Chair</th>
<th>Keynotes</th>
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| 14:00–15:00  | Parallel session L2.2: Facing climatic variability and extremes – ROOM SULLY 2 |                       | Arona Diedhiou    | **Robert Zougmoré** (CCAFS, ICRISAT): Facing climatic variability and extremes  
**Thierry Lebel** (IRD): Rainfall modifications in the context of climate change: the puzzle of the tropical regions  
**Poster Session & Coffee Break**  
**Oral presentations**  
**Festo Massawe** (University of Nottingham Malaysia Campus): The potential for underutilised crops to improve food security in the face of climate change  
**David Leclère** (IIASA): Changes in climate variability and potential for impacts of droughts on agricultural markets  
**Jean-Louis Durand** (INRA): How precisely do maize crop models simulate the impact of climate change variables on yields and water use?  
**Anne Mottet** (FAO): Modeling livestock production under climate constraint in the African drylands to identify interventions for adaptation |
| 15:00–16:30  |                                              |                       |                   | **Poster Session & Coffee/Tea Break**  
**Oral presentations**  
**Monika Zurek** (Climate Focus): Climate readiness in smallholder agricultural systems: Lessons learned from REDD+  
**Ulrich Kleinwechter** (IIASA): Assessing low emissions agricultural pathways under alternative climate policy regimes  
**Laurence Jassogne** (IITA): Climate-smart coffee systems in East Africa  
**Paresh Shirsath** (IWMI-New Delhi): Prioritizing Climate-Smart Agricultural Interventions at Multiple Spatial and Temporal Scales |
| 16:30–18:00  |                                              |                       |                   |                                                                                                                   |
| 14:00–15:00  | Parallel session L2.3: Combining mitigation, adaptation and sustainable intensification – ROOM SULLY 3 |                       | Louise Jackson    | **Kenneth Cassman** (University of Nebraska–Lincoln): *Ex-Ante* Evaluation of Climate-Smart Agriculture Options  
**Lini Wollenberg** (University of Vermont, CCAFS): Will sustainable intensification get us to 2 degrees Celsius?  
**Poster Session & Coffee/Tea Break**  
**Oral presentations**  
**Monika Zurek** (Climate Focus): Climate readiness in smallholder agricultural systems: Lessons learned from REDD+  
**Ulrich Kleinwechter** (IIASA): Assessing low emissions agricultural pathways under alternative climate policy regimes  
**Laurence Jassogne** (IITA): Climate-smart coffee systems in East Africa  
**Paresh Shirsath** (IWMI-New Delhi): Prioritizing Climate-Smart Agricultural Interventions at Multiple Spatial and Temporal Scales |
| 15:00–16:30  |                                              |                       |                   |                                                                                                                   |
| 16:30–18:00  |                                              |                       |                   |                                                                                                                   |
| 14:00–15:00  | Parallel session L2.4: Breeding and protecting crops and livestock – ROOM RONDELET |                       | Kenneth Cassman   | **Jean-Christophe Glaszmann** (CIRAD): Plant breeding for climate-smart agriculture  
**Renaud Lancelot** (CIRAD): What impact of climate change on animal health?  
**Poster Session & Coffee/Tea Break**  
**Oral presentations**  
**Jos van Boxtel** (Arcadia Biosciences): Reducing nitrogen run-off and emission, and increasing rice productivity in African rice production environment  
**Sunil Archak** (ICAR-National Bureau of Plant Genetic Resources): Utilization of ex situ collections and climate analogues for enhancing adaptive capacity to climate change  
**Denis Lalœ** (Inra/AgroParisTech): Adaptation of Mediterranean bovine livestock to climate constraints. Genetic diversity and breeding systems  
**François Tardieu** (INRA, LEPSE): Towards genotypes adapted to climate change via combination of phenotyping and modelling: The projects DROPS and Phenome |
| 15:00–16:30  |                                              |                       |                   |                                                                                                                   |
| 16:30–18:00  |                                              |                       |                   |                                                                                                                   |
### Parallel session L2.5: Overcoming barriers: policies and institutional arrangements to support CSA – ROOM BARTHEZ

**Chair:** Allison M. Chatrchyan

**Keynotes**
- Leslie Lipper (FAO): Policies and institutional arrangements to support CSA
- Laurent Sédogo (WASCAL): Policies and institutions conducive for enhancing the transfer to CSA in Africa

**Poster Session & Coffee Break**

**Oral presentations**
- Myriam Layaoen (Philippin Rice Research Institute): Schools as climate smart agriculture information hubs
- Harry Clark (NZAGRC): Advancing CSA solutions through global collaboration: the Global Research Alliance on Agricultural Greenhouse Gases
- Adriana Paolantonio (FAO): Using whole-farm models for policy analysis of climate smart agriculture
- Songporne Tongruksawattana (CIMMYT): Climate shocks and risk attitudes among female and male maize farmers in Kenya

**18:30-Till late**
**Gala dinner at the Château de Pouget**

### Wednesday 18 March 2015

#### Parallel sessions L3: Towards Climate-smart Solutions & Poster session

**8:30−12:30**

**8:30−09:30**

**Parallel session L3.1: Climate adaptation and mitigation services – ROOM SULLY 1**

**Chair:** Eddy Moors

**Keynotes**
- Cynthia Rosenzweig (NASA’s Goddard Institute for Space Studies, AgMIP): AgMIP Contributions to Climate-Smart Agriculture
- Eddy Moors (Wageningen University and Research): Adaptation and mitigation services for climate smart agriculture

**Poster Session & Coffee Break**

**Oral presentations**
- Leila Akhmiss and Abdellatif Rami (IAV Hassan II, CHA / AGROTECH): Public-Private Partnership For Climate-Smart Irrigation Initiative in Morocco: The experience of Souss Massa Region
- Vinay Sehgal (Indian Agricultural Research Institute, New Delhi): DSS for monitoring agro-meteorological and crop conditions in India using remote sensing for agro-advisory services
- Jacob van Etten (Bioversity International): Can citizen science accelerate climate adaptation by poor farming households?
- Fiona Ehrhardt (INRA): An international intercomparison & benchmarking of crop and pasture models simulating GHG emissions and C sequestration

**09:30−11:00**

**11:00−12:30**

**Parallel session L3.2: Climate-smart cropping systems – ROOM SULLY 2**

**Chair:** Pramod Aggarwal

**Keynotes**
- Michael Obersteiner (IIASA): Climate-Smart Agriculture – adaptation or transformation
- Philippe Debaeke (INRA): Designing and assessing climate-smart cropping systems in temperate and tropical agriculture

**Poster Session & Coffee Break**

**Oral presentations**
- Jean-Jacques Drevon (INRA): Phosphorus use efficiency in symbiotic N2 fixation for coupling biogeochemical cycles in agrosystems with legumes

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<th>Parallel session</th>
<th>Time</th>
<th>Room</th>
<th>Chair</th>
<th>Keynotes</th>
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</table>
| L3.3             | 08:30−09:30   | ROOM SULLY 3 | Mark Howden          | Mario Herrero (CSIRO): Climate-smart livestock systems: lessons and future research  
Jean-François Soussana (INRA): Livestock and climate change: combining mitigation and adaptation options and projecting sustainable futures |
|                  | 09:30−11:00   |              |                      | Poster Session & Coffee Break                                             |
|                  | 11:00−12:30   |              |                      | Oral presentations                                                        |
|                  |               |              |                      | Petr Havlik (IIASA): Differential climate change impacts on crop and grasslands and the relative livestock production systems competitiveness  
Pierre Gerber (FAO): Efficiency gains for enteric methane mitigation and productivity: contribution to CSA and investment opportunities  
Anne Collin (INRA): Variations in egg incubation temperature enable chicken acclimation through long-lasting changes in energy metabolism  
Juan Pablo Inamagua-Uyaguar (CATIE): Impact of feeding strategies on GHG emissions, income over feed cost and economic efficiency on milk production |
| L3.4             | 08:30−09:30   | ROOM RONDELET| Bruno Rapidel        | John Beer (CATIE): Climate Smart Territories; what are they and how do we evaluate progress towards this goal?  
Úrsula Oswald Spring (National Autonomous University of Mexico, UNU-EHS): Towards climate-smart landscapes and watersheds |
|                  | 09:30−11:00   |              |                      | Poster Session & Coffee Break                                             |
|                  | 11:00−12:30   |              |                      | Oral presentations                                                        |
Bruno Locatelli (CIRAD-CIFOR): Managing trade-offs in climate-smart landscapes: A global analysis at multiple levels  
Peter A Minang (ICRAF): Climate-Smart Landscapes: Multifunctionality in Practice  
Joice Ferreira (Embrapa Amazonia Oriental): A platform for landscape ecoefficiency monitoring and jurisdictional certification in the amazon region |
| L3.5             | 08:30−09:30   | ROOM BARTHEZ | Leslie Lipper        | Merylyn Hedger (ODI): Delivering Climate Smart Agriculture: prospects from climate finance  
Tim Searchinger (Princeton University, WRI): “What Can Fund Climate Smart Agriculture?” |
|                  | 09:30−11:00   |              |                      | Poster Session & Coffee Break                                             |
|                  | 11:00−12:30   |              |                      | Oral presentations                                                        |
|                  |               |              |                      | Ada Ignaciuk (OECD): How to deal with trade-offs? - A manual for policymakers  
Ana Iglesias (Universidad Politécnica de Madrid): Exploring strategic management of agricultural systems to link mitigation and adaptation to climate change |
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<th>Time</th>
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<tr>
<td>12:30–13:30</td>
<td>Onsite Lunch Break – Level 3</td>
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<tr>
<td>13:30–14:10</td>
<td>Plenary P4 Feedback from L1 parallel sessions – AUDITORIUM PASTEUR</td>
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<tr>
<td></td>
<td>Peter Minang and Jean-Luc Chotte</td>
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<td>14:10–14:50</td>
<td>Plenary P5: Feedback from L2 parallel sessions – AUDITORIUM PASTEUR</td>
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<td>Louise Jackson and Emmanuel Torquebiau</td>
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<td>14:50–15:30</td>
<td>Plenary P6: Feedback from L3 parallel sessions – AUDITORIUM PASTEUR</td>
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<td>Leslie Lipper and Jean-François Soussana</td>
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<td>15:30–16:00</td>
<td>Coffee Break – Level 3</td>
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<td>16:00–17:30</td>
<td>Plenary P7 Round Table: What are the expectations from End-users and Policy-makers?</td>
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<td>AUDITORIUM PASTEUR</td>
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<td>Chair: Alain Vidal</td>
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<td>Juan Lucas Restrepo Ibiza (Chair, GFAR and Executive Director, CORPOICA)</td>
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<td>Patrice Burger, Executive Director of CARI (On behalf of the French Consortium Coordination Sud Commissions “Climate and Development” and “Food and Agriculture”)</td>
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<td>Thierry Blandinières, CEO, INVIVO, First French Agricultural Cooperation Group</td>
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<td>Lindiwe Majele Sibanda, Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) (tbc)</td>
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<td>Leslie Lipper, Senior Environmental Economist, Agriculture and Development Economics Division, FAO</td>
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<td>Victor Villalobos, Director General, IICA (Instituto Interamericano de Cooperación para la Agricultura) (tbc)</td>
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<td>17:30–18:30</td>
<td>Plenary P8: Towards a CSA science roadmap From Montpellier to the next CSA conference</td>
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<td>Formal Closing session – AUDITORIUM PASTEUR</td>
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<td>Jean-Luc Chotte, IRD, Director of ECO&amp;SOLS Research Unit Officer</td>
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<td>Jean-François Soussana, INRA, Scientific Director for Environment</td>
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<td>Patrick Caron, CIRAD, Director General for Research and Strategy</td>
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<td>Laurence Tubiana, Ambassador and Special Representative of the French Government for COP21</td>
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<td>Martin Bwalya, Head of Agriculture and Food Security Directorate, NEPAD &amp; Co-Chair of the Global Alliance on Climate-smart Agriculture (tbc)</td>
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### Thursday 19 March 2015

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<tr>
<th>Day-long (lunch included)</th>
<th>Post-Conference Field Trips and Research Infrastructures Tour</th>
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<td><strong>Visit 1:</strong> Climate change adaptation in Viticulture and Enology at an experimental Wine Farm</td>
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<td><strong>Visit 2:</strong> Agroforestry and climate change in a Mediterranean setting</td>
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<td><strong>Visit 3:</strong> Montpellier’s Research Infrastructures Tour</td>
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<th>20:00–22:00</th>
<th>Public Conference on CSA (in French)</th>
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<td></td>
<td>In town at DIAGONAL CAPITOL movie theatre</td>
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<td>5 Rue de Verdun, 34000 Montpellier</td>
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<td>(Tramway station: Comédie)</td>
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« *Changement climatique et agriculture : quelles solutions pour l’avenir ?* »

**Speakers:**

- Jean-Marc Touzard, Directeur de recherche à l’Inra, Montpellier
- Jean-François Soussana, Directeur scientifique Environnement à l’Inra, Paris et membre du GIEC
- Yacine Badiane NDour, Directrice du Laboratoire national de recherches sur les productions végétales, Isra-Institut sénégalais de recherche agricole, Dakar, Sénégal
Side events

Side-events in Montpellier

Annual workshop of the Animal Health & Greenhouse Gas Emissions Intensity Network
Date: Sunday, 15 March 2015 – Full day event
Expected attendance: 20
Venue: Crowne Plaza Montpellier Corum Hotel
Contact person: Alice Willett at animalhealthnetwork@adas.co.uk
Website: www.globalresearchalliance.org/

The Animal health and Greenhouse Gas (GHG) Emissions Intensity Network of the Global Research Alliance on Agricultural Greenhouse Gases aims to bring together researchers from around the world to investigate links and synergies between efforts to reduce animal disease and possible GHG mitigation through disease control.

The second annual Network workshop will be held on Sunday 15th March 2015 (full day event) in the margins of Climate-Smart Agriculture 2015 Global Science Conference at Le Corum, Montpellier, France. The workshop will bring together relevant researchers (e.g. animal scientists, veterinary scientists, epidemiologists, economists, GHG researchers) and research funders to develop international links, share information on current research and discuss opportunities to build upon this research, and identify data requirements and expertise needed to progress work on animal health and GHG’s.

For further information on the Network, please see the report of the first workshop at http://www.globalresearchalliance.org/community/alliance-member-countries/member-country-page-united-kingdom/uk-activities-livestock-research-group/

CSA Alliance Knowledge action group (Upon invitation)
Date: Sunday, 15 March 2015
Expected attendance: 100
Venue: Agropolis International
Contact person: Federica.Matteoli@fao.org
For registration: https://www.surveymonkey.com/r/KZW92X7
Website: http://www.climatesmartagriculture.org/

The Knowledge Action Group (KAG) of the ACSA co-led by the FAO and CGIAR/CCAFS is organizing this workshop in order to secure inputs and organize the work on research priorities for CSA and partnerships to make these priorities possible. The activities identified at the workshop will form inputs into the development of the KAG’s action plan.

Global Research Alliance on Greenhouse Gases (GRA) (Upon invitation)
Date: Sunday, 15 March 2015
Expected attendance: 30
Venue: Le Corum (Room Louisville)
Contact person: jan.verhagen@wur.nl
Website: www.globalresearchalliance.org/

The Global Research Alliance on Agricultural Greenhouse Gases brings countries together to find ways to grow more food without growing greenhouse gas emissions.

FACCE JPI Governing Board (Upon invitation)
Date: Tuesday, 17 March 2015
Expected attendance: 35
Venue: Le Corum (Room Louisville)
Contact person: Heather.Mckhann@paris.inra.fr
Website: www.faccejpi.com/About-Us

FACCE JPI is the Joint Research Programming Initiative on Agriculture, Food Security and Climate Change

CSA and Agroecology working group (Upon invitation)
Date: Tuesday 17th March 2015, lunch time
Expected attendance: 20
Venue: Le Corum (Room Sully 3)
Contact person: Florent.maraux@cirad.fr and emmanuel.torquebiau@cirad.fr

Meeting of the Technical Advisory Committee of the Project “Knowledge and technical services in the development of “Climate Smart Agriculture” and “Agroecology” approaches”, co-organized by CIRAD and FAO.

Global Alliance on CSA (GACSA): presentation (Open to all)
Date: Tuesday, 17 March 2015 – lunch time
Expected attendance: To be confirmed
Venue: Le Corum (Room Barthez)
Contact person: Leslie.lipper@fao.org and patrick.caron@cirad.fr
GACSA seeks to improve people’s food security and nutrition in the face of climate change.
Details of the meeting to be confirmed.

The Regional Multidisciplinary Platform “Rural Communities, Environment and Climate in West Africa” – PPR SREC (Open to all)
Date: Wednesday, 18 March 2015 – lunch time
Expected attendance: 50/60
Venue: Le Corum (Room Barthez)
Contact person: jean-luc.chotte@ird.fr
Website: http://www.ppr-srec.ird.fr/
Presentation of PPR SREC, a cross-disciplinary, regionally integrated multi-stakeholders platform for innovative approaches, education and training in West Africa, in the face of climate change and food security.

AGRINATURA: Annual Meetings and General Assembly 2015 focusing on “Building capacities to address climate change”
Upon invitation
Date: Thursday, 19 March and Friday, 20 March 2015
Expected attendance: 50
Venue: IRC/Montpellier SupAgro and Agropolis International
Contact person: pillot@supagro.inra.fr
Website: http://www.agrinatura.eu/
General Assembly and workshop of AGRINATURA, The European Alliance on Agricultural Knowledge for Development.

Final meeting of the AnimalChange European project
The large collaborative project AnimalChange funded from the European Union’s Seventh Framework Programme for research, technological development and demonstration, will hold its final meeting at Agropolis International to present relevant project results.

Date: Thursday 19 March, 14:00–18:00 (open to all upon registration) & Friday, 20 March 2015, 9:00–14:00 (restricted to members of the AnimalChange consortium)
Expected attendance: 80-100
Venue: Agropolis International
Contact person: irina.carpusca@paris.inra.fr
Website: http://www.animalchange.eu/

Side-event in Paris
Gender Seminar and Panel (Open to all)
“Closing the gender gap in farming under climate change: New knowledge for renewed action”
Date: Thursday, 19th March 2015, 9.00am – 2.30pm
Expected attendance: 100-150
Venue: CAP15, 13 Quai De Grenelle, 75015, Paris
Website and registrations: http://ccafs.cgiar.org/closing-gender-gap
PLENARY SESSIONS

PLENARY 1: OPENING CEREMONY
Cf. page 13

PLENARY 2: GLOBAL DIMENSIONS
Monday, 16 March 2015
11:00–13:00

AUDITORIUM PASTEUR

11:00 PLENARY KEYNOTE P2.1: CLIMATE CHANGE, RISKS, EXTREMES AND UNCERTAINTIES

Climate Change: from global alert to local studies
Le Treut Hervé
Laboratoire de Météorologie Dynamique/ Institut Pierre-Simon Laplace, Université Pierre et Marie Curie, Paris, France

11:30 PLENARY KEYNOTE P2.2: CLIMATE-SMART AGRICULTURE: CONCEPTUAL FRAMEWORK AND BRIEF HISTORY

Climate-Smart agriculture: conceptual framework and brief history
Wang Ren
Assistant Director-General, Agriculture and Consumer Protection Department, FAO

12:00 PLENARY KEYNOTE P2.3: IMPACTS AND ADAPTATION OF AGRICULTURE TO CLIMATE CHANGE AND CLIMATIC VARIABILITY

From climate adaptation assessment to action and back again: a food system perspective
Howden Mark, Crimp Steven, Lim-Camacho Lilly, Dowd Anne-Maree
CSIRO Agriculture, GPO Box 1700, Canberra, ACT 2601, Australia

12:30 PLENARY KEYNOTE P2.4: SUPPLY AND DEMAND BASED GREENHOUSE GAS MITIGATION

Supply and demand based greenhouse gas mitigation
Smith Pete
Institute of Biological Sciences & Scottish Food Security Alliance-Crops, University of Aberdeen, Aberdeen, AB24 3UU, United Kingdom
SPECIAL PLENARY KEYNOTE ON CSA SCIENCE-POLICY INTERFACE: Bringing findings of CSA science to policy-makers
Tuesday, 17 March 2015
9:00–9:30

AUDITORIUM PASTEUR

Bringing findings of “CSA science” to policy makers
Allahoury Amadou
High Level Panel of Experts on Food Security and Nutrition (HLPE), Steering Committee Member
High Commissioner for Food Security to the President of the Republic of Niger

PLENARY 3: KEY QUESTIONS FOR CLIMATE-SMART AGRICULTURE
Tuesday, 17 March 2015
9:30–10:30

AUDITORIUM PASTEUR

9:30 PLENARY KEYNOTE P3.1: RESILIENCE AND ADAPTATION

Adaptation, Resilience and Climate Smart Agriculture – from concepts to action
Meinke Holger1,2, Baethgen Walter3, Meza Francisco4, Campbell Bruce5
1Tasmanian Institute of Agriculture, Schools of Land and Food, University of Tasmania, Hobart, TAS 7001, Australia
2Centre for Crop Systems Analysis, Wageningen University, the Netherlands
3IRI, Columbia University, New York, USA
4Pontificia Universidad Católica de Chile, Santiago, Chile
5CGIAR Research Program on Climate Change, Agriculture, and Food Security (CCAFS), c/o University of Copenhagen, Denmark

10:00 PLENARY KEYNOTE P3.2: SUSTAINABLE INTENSIFICATION AND MITIGATION

Sustainable intensification and mitigation
Bustamante Mercedes M.C.
University of Brasilia, Brazil

11:00 PLENARY KEYNOTE P3.3: AGROECOLOGY, SOILS AND ECOSYSTEM ADAPTATION

Agroecology is climate smart
Pablo Tittonell1,2
PLENARY P4: FEEDBACK FROM L1 PARALLEL SESSIONS (towards regional science agendas).
Cf. page 16
Wednesday, 18 March 2015
13:30–14:10
AUDITORIUM PASTEUR

PLENARY P5: FEEDBACK FROM L2 PARALLEL SESSIONS
Cf page 20
Wednesday, 18 March 2015
14:10–14:50
AUDITORIUM PASTEUR

PLENARY P6: FEEDBACK FROM L3 PARALLEL SESSIONS
Cf. page 20
Wednesday, 18 March 2015
14:50–15:30
AUDITORIUM PASTEUR
PLENARY P7: ROUND TABLE on What are the expectations from End-users and Policy makers towards the Scientific community?  
Cf. page 20  
Wednesday, 18 March 2015  
16:00–17:30  
AUDITORIUM PASTEUR

PLENARY P8: TOWARDS A CSA SCIENCE ROADMAP from Montpellier to the next CSA conference Formal closing session.  
Cf. page 20  
Wednesday, 18 March 2015  
17:30–18:30  
AUDITORIUM PASTEUR
PARALLEL SESSION L1
REGIONAL DIMENSIONS

Monday, 16 March 2015
14:00–18:00

ORAL PRESENTATIONS

PARALLEL SESSION L1.1
AFRICA

ROOM SULLY 1

KEYNOTE PRESENTATIONS

14:00 Engendering climate resilient agricultural livelihoods in Africa
Opondo Maggie¹, Nyasimi Mary²
¹Institute for Climate Change & Adaptation, University of Nairobi, Kenya
²International Livestock Research Institute, Nairobi, Kenya

14:30 Integrating Ecosystem-based Adaptation and Mitigation in Africa: Policy and Practice
Locatelli Bruno
CIRAD-CIFOR, Montpellier 34098, France

CONTRIBUTED ORAL PRESENTATIONS

16:30 Climate smart practices impact soil organic carbon storage in Madagascar
Razafimbelo Tantely¹, Razakamarivo Herintsitohaina², Rafolsy Tovonarivo³, Rakotovao Narindra¹, Saneho Tiana¹, Andrriamananja Andry¹, Rakotosamiananana Stéphan², Deffontaines Sylvain², Virginie Falinirina¹, Laetitia Bernard³, Dominique Masse³, Albrecht Alain³
¹Laboratoire des Radioisotopes, Université d’Antananarivo, BP 3383, Antananarivo, Madagascar
²Agrisud International, Lot VL32M Androndra, 101 Antananarivo, Madagascar
³Institut de Recherche pour le Développement, UMR Eco&Sols, 34060 Montpellier, France

16:45 A modelling framework to assess climate change and adaptation impact on heterogeneous crop-livestock farming communities
Descheemaeker Katrien¹, Masakati Patricia², Homann-Kee Tui Sabine¹, Chibwana Gama Arthur³, Crespo Olivier¹, Claessens Lieven², Walker Sue²
¹Plant Production Systems, Wageningen University, PO Box 430, 6700 AK Wageningen, The Netherlands
²World Agroforestry Centre (ICRAF), Lusaka, Zambia
³International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), P O Box 39063, 00623 Nairobi, Kenya

17:00 Closing yield gaps to increase food supply and mitigate GHG emissions for African smallholders
Henderson Ben¹, van Wijk Mark², Rigolot Cyril³, Silvestri Silvia², Douxchamps Sabine³, Herrero Mario³
¹CSIRO, 306 Carmody Rd, St Lucia, 4067, Australia
²ILRI, Nairobi 00100, Kenya
17:15 Potential for taking climate smart agricultural practices to scale: examples from Sub-Saharan Africa
Tesfaye Kindie¹, Cairns E. Jill², Misiko Michael², Stirling Clare², Abate Tsedeke⁴, Prassana B.M.³, Mekuria Mulugeta³

¹International Maize and Wheat Improvement Center (CIMMYT), Addis Ababa, Ethiopia
²CIMMYT, Harare, Zimbabwe
³CIMMYT, London, United Kingdom
⁴CIMMYT, Nairobi, Kenya

PARALLEL SESSION L1.2
AUSTRALASIA

ROOM SULLY 2

KEYNOTE PRESENTATIONS

14:00 Climate-smart agriculture in South Asia: opportunities and constraints in scaling out
Aggarwal Pramod
Aggarwal Pramod¹, Kahtri-Chettri Arun¹, Bhaskar Shirsath P.¹, Jat M.L.², Joshi P.K.³
¹CGIAR Research Program on Climate Change, Agriculture and Food Security, International Water Management Institute, New Delhi-110012, India
²CIMMYT, New Delhi-110012, India
³IFPRI, New Delhi-110012, India

14:30 Promotion of climate resiliency for food security in the association of Southeast Asian nations: regional policy making and funding opportunities
Bacudo Imelda
ASEAN-German Programme on Response to Climate Change, GAPCC
GIZ Jakarta

CONTRIBUTED ORAL PRESENTATIONS

16:30 Integrated rice-shrimp as a smart strategy to cope with climate change in the Mekong Delta, Vietnam
Trinh Q. Tu¹, Tran V. Nhuong¹, Phan T. Lam³
¹Research Institute for Aquaculture No.1 (RIA1, Dinh Bang, Tu Son, Bac Ninh, Viet Nam
³WorldFish Center (WFC, Jalan Batu Maung, Batu Maung, 11960 Bayan Lepas, Penang, Malaysia

16:45 Changing rainfall pattern in Northeast Thailand and implications for cropping systems adaptation
Lacombe Guillaume¹, Trébuil Guy²
¹International Water Management Institute (IWMI), Southeast Asia Regional Office, PO Box 4199, Vientiane, Laos
²Centre de coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), UMR Innovation, 34398 Montpellier Cedex 5, France

17:00 A review of contributions that the System of Rice Intensification (SRI) can make to climate-smart agriculture
Uphoff Norman
SRI-Rice, Cornell University, Ithaca, NY 14853, USA

17:15 Development of climate resilient villages
Sikka A.K.¹, Prasad Y.G.², Srinivasarao C.H.³
¹Indian council of agricultural research, New Delhi 110 012, India
²ICAR-central research institute for dryland agriculture, Santoshnagar, Hyderabad 500059, India

PARALLEL SESSION L1.3
LATIN AMERICA

ROOM SULLY 3

KEYNOTE PRESENTATIONS

14:00 Are we adapting to climate change? The case of the Chilean agricultural sector
Aldunce Paulina, Lillo G.
Universidad de Chile, Chile

14:30 Economic valuation of mangrove’s ecosystem services in Gulf of Nicoya, Costa Rica
Arguedas-Marín Maureen, Cifuentes Miguel, Mercado Leida, Bouroncle Claudia
Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), 7170 CATIE, Turrialba, 30501 Costa Rica
CONTRIBUTED ORAL PRESENTATIONS

16:30 The experience in policy dialogue for agriculture and climate change in LAC countries: an overview
Schlaifer Michel1, Rodriguez Adrián2, Meza Laura3
1French Embassy – ECLAC, Santiago, Chile
2ECLAC, Agricultural Development Unit, Santiago, Chile
3FAO, Santiago, Chile

16:45 Implications of losing the complementariness of gender roles on CSA strategies in the Peruvian Altiplano
Turin Cecilia1,2, Valdivia Roberto1, Quiroz Roberto2
1International Potato Center (CIP), Global Program on Crop Systems Intensification and Climate Change (CSI-CC), Lima, Peru
2CGIAR Research Program on Climate Change, Agriculture and Food Security (CRP CCAFS)

17:00 How do coffee farmers adapt to perceived changes in climate? Evidence from Central America
Saborio-Rodriguez Milagro1,2, Alpizar Francisco3, Harvey Celia4, Martinez Ruth M.3, Vignola Raffaele1
1CATIE, Apdo 7170, Turrialba, Costa Rica
2University of Costa Rica, 11501, San Pedro de Montes de Oca, Costa Rica
3Conservation International, Arlington, VA 22202, USA

17:15 Practices and enabling conditions for climate-smart agriculture: current status in seven countries in Latin America
Bouroncle Claudia1, Corner-Dolloff Caitlin2, Halliday Andrew3, Nowak Andreea4, Zavariz Beatriz5, Argote Karolina5, Baca Maria4 Fallot Abigail1,5, Le Coq Jean-Francois5
1CATIE–Climate Change and Watershed Program; 30501 Turrialba, Costa Rica
2CIAT-DAPA, Cali, Colombia
3CATIE, consultant
4CIAT-DATA, consultant
5CIRAD UMR ART-DEV, 34000 Montpellier, France

PARALLEL SESSION L1.4 EUROPE

ROOM RONDELET

KEYNOTE PRESENTATIONS

14:00 EU-funded research & innovation activities in support to Climate Smart Agriculture
Kolar Patrik
Head of Unit “Agri-food Chain”, DG Research and Innovation, European Commission, Pl. Rogier 16, BE-1049 Brussels, Belgium

14:30 FACCE-JPI: a European partnering initiative to tackle food security and climate change – one of the greatest societal challenges
Gøtke Niels
Chair of the FACCE-JPI Governing Board

CONTRIBUTED ORAL PRESENTATIONS

16:30 Wheat yield sensitivity to climate change across a European transect for a large ensemble of crop models
Pirttioja Nina1, Carter Timothy R.1, Fronzek Stefan1, Bindi Marco2, Hoffmann Holger3, Palosuo Taru4, Ruiz-Ramos Margarita5, Tao Fulu4, Trnka Miroslav6,7, Acutis Marco8, Asseng Senthold9, Baranowski Piotr10, Basso Bruno11, Bodin Per12, Buis Samuel13, Cammarano Davide14, Delgios Paola15, Destain Marie-France16, Dumont Benjamin16, Ewert Frank1, Ferrise Roberto1, Gaiser Thomas1, Hlavinka Petr6,7, Jacquemin Ingrid16, Kersebaum Kurt Christian17, Kollas Chris17, Krzyszczak Jaromir10, Lorite Ignacio J.18, Minet Julien19, Minguet M. Ines1, Montesino Manuel19, Moriondo Marco20, Müller Christoph21, Nendel Claas22, Öztürk Isik23, Perego Alessia8, Rodríguez Alfredo1, Ruane Alex C.24,25, Ruget Françoise13, Sanna Mattia8, Semenov Mikhail25, Slawinski Cezary26, Stratonovitch Pierre27, Supit Iwan28, Wang Enli27, Wu Lianhai28, Zhao Zhigan27,29, Rötter Reimund P.4
1Finnish Environment Institute (SYKE), 00250 Helsinki, Finland
2University of Florence, 50144 Florence, Italy
3INRES, University of Bonn, 53115 Bonn, Germany
4Luke Natural Resources Institute, 00790 Helsinki, Finland
16:45 Economic assessment of greenhouse gas mitigation on livestock farms

Eory Vera\textsuperscript{1}, Faverdin Philippe\textsuperscript{2}, O’Brien Donal\textsuperscript{3}

\textsuperscript{1}Scotland’s Rural College (SRUC), Land Economy, Environment & Society, EH9 3JG, Edinburgh, United Kingdom

\textsuperscript{2}INRA, UMR Physiologie, Environnement et Génétique pour l’Animal et les Systèmes d’Élevage, F-35000 Rennes, France

\textsuperscript{3}Teagasc, Animal & Grassland Research and Innovation Centre, Moorepark, Fermoy, Co Cork, Ireland

17:00 Agricultural adaptation to climate change in the European Union

Trapp Natalie, Schneider Uwe A.

Universität Hamburg, KlimaCampus, Research Unit Sustainability and Global Change, Grindelberg 5, 20144 Hamburg, Germany

17:15 Legume supported cropping systems for Europe (Legume Futures)

Rees R.M.\textsuperscript{1}, Stoddart, F.\textsuperscript{2}, Iannetta, P.\textsuperscript{3}, Williams, M.\textsuperscript{4}, Zander, P.\textsuperscript{5}, Murphy-Bokern, D.\textsuperscript{6}, Topp, C.F.E.\textsuperscript{7}, Watson, C.A.\textsuperscript{1}

\textsuperscript{1}Scotland’s Rural College, Edinburgh EH9 3JG, United Kingdom

\textsuperscript{2}Department of Agricultural Sciences, 00014 University of Helsinki, Finland

\textsuperscript{3}James Hutton Institute, Dundee, United Kingdom

\textsuperscript{4}Department of Botany, Trinity College Dublin, Ireland

\textsuperscript{5}Leibniz Centre for Agricultural Landscape Research (ZALF), 15374 Müncheberg, Germany

\textsuperscript{6}Lohne, 49393 Germany

PARALLEL SESSION L1.5

NORTH AMERICA

ROOM BARTHEZ

KEYNOTE PRESENTATIONS

14:00 Building climate smart, sustainable, intensive agriculture for the 21st century and beyond

Walthall Charles\textsuperscript{1}, Hatfield Jerry\textsuperscript{2}, Schneider Sally\textsuperscript{1}, Boggess Mark\textsuperscript{3}

\textsuperscript{1}National Program Leader, Natural Resources & Sustainable Agriculture Systems Research

\textsuperscript{2}Laboratory Director & Supervisory Plant Physiologist, National Laboratory for Agriculture & Environment
3rd Global Science Conference on Climate-Smart Agriculture  CSA2015 Montpellier – France

Deputy Administrator, Natural Resources & Sustainable Agriculture Systems Research
*Center Director, U.S. Dairy Forage Research Center, USDA Agricultural Research Service

14:30  Scientific article summarizing the 2013 CSA Global Science Conference in North America
Jackson Louise E., Steenwerth K.L.
1Department of Land, Air and Water Resources, University of California Davis, USA
2Crops Pathology and Genetics Research Unit, Agricultural Research Service, United States Department of Agriculture (ARS/USDA), USA

CONTRIBUTED ORAL PRESENTATIONS

16:30  The 4-R nutrient stewardship and its role in climate smart agriculture
Khosla Raj, Longchamps Louis, Reich R.
Department of Soil & Crop Sciences, Colorado State University, Fort Collins, CO, USA

16:45  From climate variability to climate change: building adaptive capacity among row crop farmers in the Southeastern USA
Ortiz Brenda V., Fraisse Clyde, Dourte Daniel, Bartels Wendy-Lin, Zierden David, Knox Pam, Risse Mark, Vellidis George, Templeton Scott, Thomas Michel
1Auburn University, Crop, Soil, and Environmental Sciences Department, 36849, Auburn, Alabama, USA
2University of Florida, Biological and Agricultural Engineering Department, Gainesville, Florida, USA
3Florida State University, Center for Ocean-Atmospheric Prediction Studies (COAPS), 32310, Tallahassee, Florida, USA
4University of Georgia, Crop and Soil Sciences Department, 30602, Athens, Georgia, USA
5Clemson University, Department of Economics, 29631, Clemson, South Carolina, USA
6Florida A&M University, Department of Agribusiness, 32307, Tallahassee, Florida, USA

17:00  Climate-Smart Agriculture and Water Management in California
Sandoval Solis Samuel
University of California, Davis One Shields Avenue Davis, California - CA 95616, USA

17:15  Dealing with climate and yield variability: the role of precision agricultural technologies and crop models

Basso Bruno, Robertson G. Philip, Hatfield Jerry
1Department of Geological Sciences and W.K. Kellogg Biological Station, Michigan State University East Lansing, Michigan 48823, USA
2Department of Plant, Soil and Microbial Sciences and W.K. Kellogg Biological Station, Michigan State University East Lansing, Michigan 48823, USA
3National Laboratory for Agriculture and Environment, Ames, Iowa 50011, USA
POSTER SESSION 1

Monday, 16 March 2015
15:00 – 16:30

EXHIBITION HALL, LEVEL 0

L.1.1 AFRICA

1. Is conservation agriculture a climate-smart option for smallholders in sub-Saharan Africa?
   Bruelle Guillaume1, Naudin Krishna2, Scopel Eric2, Corbeels Marc2, Torquebiau Emmanuel2, Penot Eric1, Rabeharisoa Lilian1, Mapfumo Paul2, Tittonell Pablo6
   1FOFIFA, DP SPAD, 101, Antananarivo, Madagascar
   2CIRAD, UPR AÏDA, 34398, Montpellier, France
   3CIRAD, UMR Innovation, 34398, Montpellier, France
   4Université d’Antananarivo, LRI, 101, Antananarivo, Madagascar
   5University of Zimbabwe, SOFECASA, 00263, Harare, Zimbabwe
   6Wageningen University, FSE, 6708 PB, Wageningen, the Netherlands

2. From time uncertainties to climate-smart agriculture in the Sudano-Sahelian zone of Cameroon
   Fofiri Nzossie Eric Joël1, Brind1, Temple Ludovic3, Wakononou Anselme4
   1Département de géographie, Université de Ngaoundéré BP 454, Cameroon
   2Département de géographie, Université de Ngaoundéré BP 454, Cameroon
   3Cirad, UMR Innovation, B15, 73 rue JF. Breton 34398 Montpellier, France
   4Département de géographie, Université de Ngaoundéré, BP 454, Cameroon

3. Feeding Ethiopia in changing context: from diagnosis to exploration of climate smart options
   Mezegebu Getnet1,2,3, Martin van Ittersum2, Katrien Descheemaeker1, Huib Hengsdijk2
   1Plant Production Systems group, Wageningen University, P.O. Box 430, 6700 AK Wageningen, the Netherlands
   2Plant Research International, Wageningen University and Research, P.O. Box 616, 6700 AP Wageningen, the Netherlands
   3Ethiopian Institute of Agricultural Research, Melkassa Research Centre, P.O. Box 436, Nazareth, Ethiopia

4. Macroalgae as biostimulants of growth and enhance tolerance to Moroccan wheat plants cultivated under salt stress
   Latique Salma, Chernane Halima, Mansouri Mounir, El Kaoua Mimoun
   Cadi Ayyad University /Department of Biology, Laboratory of Biotechnology, Valorization and Protection of Agro-Resources, Marrakech, Morocco

5. Improving the resilience of fishery stakeholders to the climate change effects. Case of Saint-Louis, Senegal
   Diallo Aminata1, Sarr Benoit2, Thiao Djiga2, Sall Moussa4
   1Centre for Oceanographic Research Dakar, Thiaroye, Senegal (up to October 2014), Fann Résidence, Dakar, Senegal
   2Agro meteorologist Engineer and Coordinator of Master Climate Change and Sustainable Development Program, Scientific Coordinator of the Global Alliance against Climate Change Project (Regional Centre AGRYM ENT), Niger
   3Researcher and statistician at the Centre for Oceanographic Research Dakar / Thiaroye, Senegal
   4Regional Coordinator of the MOLOA to the Ecological Monitoring Centre

6. Comparative assessment of maize, finger millet and sorghum for household food security under increasing climatic risk
   Rurinda Jairos1,2,3, Mapfumo Paul2,3, van Wijk T. Mark4, Mtambanengwe Florence5, Rufino C. Mariana6, Chikowo Regis7,8, Giller E. Kenneth1
   1Plant Production Systems, Wageningen University, P.O. Box 430, 6700 AK Wageningen, The Netherlands
   2Department of Soil Science and Agricultural Engineering, University of Zimbabwe, P.O. Box MP167, Mount Pleasant, Harare, Zimbabwe
   3Soil Fertility Consortium for Southern Africa (SOFECASA), CIMMYT, Southern Africa, P.O. Box MP 163, Mount Pleasant, Harare, Zimbabwe
   4International Livestock Research Institute (ILRI), Box 30709, Nairobi 00100, Kenya
7. Choice and risks of management strategies of farming calendar: application to corn production in Southern Benin
Alle C. S. Ulrich, Baron Christian, Guibert Hervé, Agbossou K. Euloge, Afouda A. Abel
1Université d'Abomey - Calavi, Republic of Benin
2CIRAD, France

8. Land cover changes along tropical highland agroforestry systems: call for an improved climate adaptation
Matooke Arbogast, Lyimo James, Lelong Camille, Majule Amos, Masao Catherine, Mathé Pierre-Etienne, Vaast Philippe, Williamson David
1Institute of Resource Assessment, University of Dar es Salaam, P.O. Box 35 097 Dar es Salaam, Tanzania
2CIRAD-TETIS, Maison de la Télédétection, 34093 Montpellier Cedex 5, France
3CEREGE, Aix-Marseille Université, BP 80, 13 545 Aix-en-Provence cedex 04, France
4CRAF, p.o. box 30 677-00200 Nairobi, Kenya
5Eco&Sols, Montpellier SupAgro-Cirad-INRA-IRD, 34060 Montpellier cedex 2, France
6LOCEAN, Université Pierre et Marie Curie-IRD-CNRS-MNHN, Centre IRD France Nord, 93 143 Bondy cedex, France

9. Ecological intensification for a climate smart agriculture: applications from Senegal and Burkina Faso
Masse Dominique, Ndour-Badiane Ndèye Yacine, Hien Edmond, Akpo Léonard-Elie, Diatta Sekouna, Bilgo Ablassé, Hien Victor, Diédhiou Ibrahima, Ndiaye-Cissé Mame Farma, Tall Diouf Laure, Ndienor Moussa, Founoune Mboup Hassna, Feder Frédéric, Médoc Jean-Michel, Lardy Lydie, Assigbetsé Komi, Cournac Laurent
1LMI IESOL, Ecole Nationale des Sciences Agronomiques, Université de Thiès, Thiès, Senegal
2LMI IESOL, UPR Recyclage et risques, CIRAD, Dakar, Senegal

10. Incorporating climate change into agricultural research and advisory services in Africa
Lamboll Richard, Morton John, Kisauzi Dan, Ohiomoba Ifidon, Demby Dady, Mangheni Margaret, Moumouni Ismaïl, Parkinson Verona, Suale David, Nelson Valerie, Quan Julian
1Natural resources Institute, University of Greenwich, ME4 4TB, United Kingdom
2African Forum for Agricultural Advisory Services (AFAAS), P.O. Box 34624, Kampala, Uganda
3The Forum for Agricultural Research in Africa (FARA), 12 Anmeda Street, Roman Ridge, Accra, Ghana
4Agricultural Extension/ Education Department, Makerere University, P.O. Box, 7062, Kampala, Uganda
5University of Parakou, BP 123, Parakou, Benin
6AGEMA Consultancy Services, C.P. 437, Quelimane, Mozambique
7Independent consultant and AFAAS Sierra Leone, P O Box 7, Freetown, Sierra Leone

11. Developing community-based climate smart agriculture through participatory action research in West Africa: lesson learnt
Akponikpe P. B. Irenikatche, Bayala Jules, Zougmore Robert
1Université de Parakou (UP), Faculté d’Agronomie (FA), Unit of Environmental Soil Physics and Hydraulics (ESPH), 03 BP 351 Université, Parakou, Bénin
2World Agroforestry Centre, West Africa and Central Regional Office - Sahel Node, BP E5118, Bamako, Mali
3CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), ICRI SAT Bamako, BP 320 Bamako, Mali

12. Indigenous Climate Smart Agriculture (iCSA); local knowledge pool from urban vegetable farmers
Kweku Oduro Koranteng
Dept. of Public Admin and Health Services, Uni of Ghana Business Sch., Ghana
13. Mitigation of climate change through soil organic carbon sequestration in smallholder farming systems of Zimbabwe
   Mujuru Lizzie¹, Mureva Admore³, Velthorst Eef J.¹, Hoosbeek Marcel R.²
   ¹Bindura University of Science Education, Dept. of Environmental Science, P. bag 1020, Bindura, Zimbabwe
   ²Wageningen University, Dept. of Environmental Sciences, Earth System Science, P.O. Box 47, 6700 AA Wageningen, The Netherlands

14. Climate-smart intensification of West-Africa's cocoa systems
   van Asten Piet¹, Jassogne Laurence³, Vaast Philippe¹, Laderach Peter¹, Schroth Götz², Lundy Mark³, Asare Richard², Muijlerman Sander², Ruf R.¹, Snoeck Didier⁵, Koko Louis⁴, Anim-Kwapong Gilbert³, Rossing Walter⁹, Gockwoski James³, Giller Ken⁹, Six Johan⁹, Vanlauwe Bernard¹¹
   ¹IITA, Kampala, Uganda
   ²ICRAF, Nairobi, Kenya
   ³CIAT, Cali, Colombia
   ⁴Rainforest Alliance, Wageningen, the Netherlands
   ⁵IITA, Accra, Ghana
   ⁶CIRAD, Montpellier, France
   ⁷CNRA, Abidjan, Côte d'Ivoire
   ⁸CRIG, Kumasi, Ghana
   ⁹WUR, Wageningen, the Netherlands
   ¹⁰ETH, Zurich, Switzerland
   ¹¹IITA, Nairobi, Kenya

15. Effect of oil and addition of enzymes on fibre digestion, methane production and performance of sheep
   Booyse Maruzaan, Hassen Abubeker
   Department of Animal and Wildlife Sciences, University of Pretoria, Pretoria 0002, South Africa

16. Drought and adaptation strategies of rural maize-legume farmers in Kenya and Tanzania
   Muricho Geoffrey¹, Tongruksawattana Songporne¹, Mutheu Judith³
   ¹International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya
   ²International Maize and Wheat Improvement Center (CIMMYT), El Batan, Mexico
   ³African Economic Research Consortium, Nairobi, Kenya

17. Biochar as an opportunity for climate-smart agriculture in small-holder farming systems in Kenya
   Sundberg Cecilia¹, Karlstun Erik¹, Mahmud Yahia³, Nyberg Gert¹, Njenga Mary³, Roobroeck Dries⁵, Röing de Nowina Kristina¹⁰
   ¹Swedish University of Agricultural Sciences 750 07 Uppsala Sweden
   ²Lund University, Sweden
   ³World Agroforestry Centre, ICRAF, UN Avenue, Nairobi, Kenya
   ⁴International Institute of Tropical Agriculture (IITA) Nairobi, Kenya

18. Farmers' perceptions of rainfall and agronomic trends in Allada plateau in southern Benin
   Alle Cayossi S. Ulrich¹, Guibert Hervé², Baron Christian³, Agbossou Euloge K.⁴, Afouda Abel A.⁵
   ¹Université d'Abomey Calavi, Bénin
   ²CIRAD, France

19. Climate and maize storage losses from insect pests in East and Southern Africa
   De Groote Hugo, Gitonga Zachary, Sonder Kai, Mugo Stephen, Tefera Tadele
   CIMMYT, PO Box 1041-00621 Nairobi, Kenya

20. Maize-based farm household typology and vulnerability to climate shocks in Kenya
   Tongruksawattana Songporne¹, Lopez-Ridaura Santiago³, Tesfaye Kindie³, Frelat Romain⁷, Gitonga Zachary¹
   ¹International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya
   ²International Maize and Wheat Improvement Center (CIMMYT), El Batan, Mexico
   ³International Maize and Wheat Improvement Center (CIMMYT), Addis Ababa, Ethiopia

21. Changing crop practices to address climate related risks among rural farmers in Nyando, western Kenya
   Recha John, Kinyangi James, Radeny Maren
   CGIAR Research Program on Climate Change, Agriculture and Food Security, East Africa Region, International Livestock Research Institute, P. O. Box 30709 - 00100 Nairobi, Kenya

22. Establishing an operational dialogue between researchers and decision-makers for adaptation to climatic changes in Mali
   Sogoba Bougouna¹, Ba Allassane², Zougmore Robert³, Samake Oumar B.⁴
   ¹ONG AMEDD, BP: 212, Koutiala, Mali
23. Women involvement in agricultural water management: example from supplemental irrigation in the Burkinabe Sahel
Bologo/Traoré Maïmouna\textsuperscript{1}, Fossi Sévère\textsuperscript{2}, Zougouri Sita\textsuperscript{3}, Bado Eulalie\textsuperscript{1,3}
\textsuperscript{1}International Institute for Water and Environmental Engineering (2iE), Department of Managerial Sciences, 00226, Ouagadougou, Burkina Faso
\textsuperscript{2}International Institute for Water and Environmental Engineering (2iE), Department of Hydraulics and Sanitation, 00226, Ouagadougou, Burkina Faso
\textsuperscript{3}University of Ouagadougou, Department of Sociology, 00226, Ouagadougou, Burkina Faso

24. Assessing potential climate change impacts in smallholder systems in Burkina Faso
Medina Hidalgo Daniel\textsuperscript{1,2} Herrero Mario\textsuperscript{3}, De Voil P.\textsuperscript{3}, Douxchamps Sabine\textsuperscript{4}, Thornton Phillip\textsuperscript{5}, Van Wijk Mark\textsuperscript{6}, Rodriguez Daniel\textsuperscript{7}, Prestwidge Di\textsuperscript{8}, Henderson B.\textsuperscript{9}, Rigolot Cyrille\textsuperscript{10,11}
\textsuperscript{1}Commonwealth Scientific and Industrial Research Organization, St Lucia, QLD 4067, Australia
\textsuperscript{2}INRA, UMR 1273 Metafort, F-63122 Saint Genes Champanelle, France
\textsuperscript{3}University of Queensland, Queensland Alliance for Agriculture and Food Innovation (QAAFI), Toowoomba, Australia
\textsuperscript{4}International Livestock Research Institute (ILRI), Ouagadougou, Burkina Faso
\textsuperscript{5}International Livestock Research Institute (ILRI), PO Box 30709-00100, Nairobi, Kenya
\textsuperscript{6}CGIAR Research Programme on Climate Change, Agriculture and Food Security, (CCAFS), PO Box 30709-00100, Nairobi, Kenya

25. Micro-level appraisal of success stories of pro-poor climate adaptation and mitigation field experiences
Bockel Louis\textsuperscript{1,2}, Bernoux Martial\textsuperscript{1,3}, Zingg Felix\textsuperscript{1,3}, Grewer Uwe\textsuperscript{1}, Chotte Jean-Luc\textsuperscript{1,2}
\textsuperscript{1}Agriculture Development Economics Division (ESA) FAO Via delle Terme di Caracalla, 00153 Roma, Italy
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26. Economic analysis of effect of flood on income distribution among farmers in Edo State, Nigeria
Osasogie Daniel Izevbua\textsuperscript{1}, Alabi Reuben Adeolu\textsuperscript{2}
Department of Agricultural Economics and Extension, Ambrose Alli University, PMB 14, Ekpoma, Edo State, Nigeria

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Ortiz Gonzalo Daniel\textsuperscript{1}, Rosenstock Todd S.\textsuperscript{2}, Vaast Philippe\textsuperscript{3}, Oelofse Myles\textsuperscript{4}, de Neergaard Andreas\textsuperscript{5}, Albrecht Alain\textsuperscript{6}
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Guibert Hervé\textsuperscript{1}, Oline Bassala Jean-Paul\textsuperscript{2}, Vyuingah Michael\textsuperscript{3}
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\textsuperscript{1}CSIR-Animal Research Institute, Accra, Ghana
\textsuperscript{2}ICRISAT, Bamako, Mali

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\textsuperscript{2}Faculté des géosciences et de l’environnement, Institut des dynamiques de la surface terrestre -
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1University of Abomey-Calavi, Benin
2AfricaRice Centre, Benin
3Catholic University of West Africa, Benin

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Yara International ASA, Research Centre Hanninghof, Hanninghof 35, 48249 Duelmen, Germany

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2University of Reading, Reading, United Kingdom
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36. Nutritive quality of dominant forage species in response to simulated drought in sub-tropical native pasture
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2Department of Plant Production and Soil Sciences, University of Pretoria, Private bag 0002, Pretoria, South Africa

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1Wageningen UR, Plant Production Systems, 6708 PB Wageningen, The Netherlands
2International Livestock Research Institute, 00100 Nairobi, Kenya

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Yemadjie Pierrot Lionel, Guibert Hervé, Bernoux Martial, Deleporte Philippe, Chevallier Tiphaine
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Fanen Terdoo, Olalekan Adekola
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Sustainability Research Institute, University of Leeds, Leeds, LS2 9J, United Kingdom

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Gerardeaux Edward, Krishna Naudin, Ramanantoaninina Alan, Dasserre Julie, Oetli Pascal, Oumarou Palai, Sultan Benjamin
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49. Gender analysis of adaptation strategies of water stress among crop farmers in Asa local government area of Kwara State
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51. Water requirements for potato production under climate change
Farag A.A., Abdrabbo M.A., Gad EL-Moula, Manal M.H., McCarl B. A.
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2Department of Agricultural Economics Texas A&M University, Texas, USA

52. How smart is Climate Smart Agriculture (CSA)? – Lessons from Northern Nigeria
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1Department of Geography, Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria
2Department of Geography and Regional Planning, Federal University Dutsin-Ma, Katsina State, Nigeria

53. Integrating climate smart agriculture for food security: the role of private sector investment in Africa
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2National Agricultural Research Organisation/National Forestry Reseources Research Institute P.O.Box 1752 Kampala, Uganda

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Nigerian Institute for Oil Palm Research (NIFOR), Entomology Division, 30003, Benin-City, Nigeria
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<td>³Université de Lorraine, Vandœuvre les Nancy, France</td>
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### 57. Net ecosystem exchange of carbon dioxide and methane in rice fields of northern Indo-Gangetic Plains |

| Bhatia A.¹, Kumar A.⁵, Jain N.³, Mishra S.V.¹, Sehgal V. K.², Pathak H.¹ |
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| ²Division of Agricultural Physics, IARI, New Delhi-110012, India |

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| Gay F.¹, Anghthong S.², Bessou C.³, Bottier C.⁴, Brauman A.⁵, Chambon B.³, Chantuma P.⁶, Gohet E.⁷, Lacote R.³, Lienggrayoon S.⁷, Poopipope K.⁸, Thaler P.⁹, Thanisawanyangkura S.⁹, Vaysse L.⁹, Winsunthorn S.¹⁰, Sainte-Beuve J.¹ |
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| ¹⁰PSU, Faculty of Science and Industrial Technology, 84000, Surat Thani, Thailand |

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| International Center for Tropical Agriculture - Asia Region, c/o Agricultural Genetics Institute, Pham Van Dong, Tu Liem District, Hanoi, Vietnam |

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| ¹Department of International Development, Community, and Environment, Clark University, Worcester, MA, USA |
61. Climate change and agriculture in India
Jha Anil Kumar
Govt. Girls P.G. College, Morar, (Jiwaji University), Gwalior, Madhya Pradesh, India

62. A suitability assessment for "alternate wetting and drying": targeting priority areas for mitigation in rice production
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¹International Rice Research Institute (IRRI), Los Baños, Philippines
²University of Vermont, Burlington, Vermont, USA

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International Potato Center (CIP), Lima 12, Lima, Peru

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68. Agricultural practices, agroecological integrated farms and sustainable indigenous territorial development in Honduras
Juan Medina¹, Edwin Torres²
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²FUNACH, Action Aid Foundation Honduras. Victoria, Yoro, Honduras

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70. Technological options to increase resilience of production systems to extreme climate events
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2International Food Policy Research Institute, 2033 K St, NW, Washington, DC 20006-1002, USA
3EcoHabitats, Popayan, Colombia

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79. Agro-Climatic forecasting system for better decision making in Latin America
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International Center for Tropical Agriculture (CIAT), Climate and crop modeling team in DAPA. Km 17, Recta Cali-Palmira, Valle Del Cauca, Colombia

80. LivestockPlus: supporting low emission development for livestock sector in Costa Rica and Colombia
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5University of Cauca, Popayan, Colombia
6University of Llanos, Villavicencio, Colombia
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3Instituto Nacional de Ciencias Agrícolas, Los Palacios, Cuba
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84. Innovation for Climate Smart Agriculture in Europe
Touzard Jean-Marc
INRA, UMR 0951 “Innovation”, 2 place Viala, F-34060 Montpellier Cedex 01, France

85. Nitrogen and water as inputs in farm bio-economic models: creating an operational modeling framework at the EU level
Humblot Pierre, Petsakos Thanasis, Jayet Pierre-Alain
INRA, UMR Economie Publique, Avenue Lucien Bretignières, F-78850 Thiverval Grignon, France

86. « PigChange »: a project to evaluate the consequences of climate change and mitigation options in pig production
Renaudeau David1, Gourdine Jean Luc2, Hassouna Melynda3, Robin Paul3, Gilbert Hélène4, Riquet Juliette5, Dourmad Jean Yves6
1INRA, UMR 1348 PEGASE, F35590 St-Gille, France
2INRA, UMR 143 URZ, F97170 Petit Bourg, France
3INRA, UMR 1069 SAS, F35000 Rennes, France
4INRA, UMR 1388 GenPhySE, F31326 Toulouse, France

87. Assessing the economic GHG abatement potential from the EU-15 dairy sector and underlying uncertainties
Koslowski Frank1, Eory Vera1, van den Poel-van Dasselaar Agnes2, Fofana Abdulai1, de Haan Michel2, Lesschen Jan Peter1, Moran Dominic2
88. Concerted action for climate smart livestock systems: research & innovation priorities in climate changing Europe
Scholte Martin C.Th., 1,2,3
1 Board of Directors Wageningen UR
2 President Animal Task Force
3 Co-chair GRA Livestock Research Group

89. An observatory of aromatic and medicinal plants as a possible indicator of the climatic changing evolution conditions
Hoxha Valter1, Ilbert Hélène2
1 UMR TETIS (Mixed Unit of Territories Research, Environment, Remote Sensing and Spatial Information) - House of Remote Sensing - 500 rue Jean-François Breton 34093 Montpellier Cedex 5, France
2 UMR1110 MOISA (Markets, Organizations, Institutions and Operators Strategies). Campus Montpellier SupAgro / INRA 2 place Pierre Viala 34060 Montpellier Cedex 2, France

90. The knowledge hub FACCE MACSUR: Modelling agriculture with climate change for food security
Köchy Martin, Banse Martin
Thünen Institute for Market Analysis, Bundesallee 50, 38116 Braunschweig, Germany

91. Can functional complementarity of plant strategies enhance drought resilience in associations of Mediterranean grasses?
Barkaoui Karim1, Bristiel Pauline3, Birouste Marine3, Roumet Catherine2, Volaire Florence3
1 CIRAD, UMR SYSTEM, 2 place Pierre Viala, 34060, Montpellier Cedex 2, France
2 CEFE UMR 5175, Université de Montpellier – Université Paul Valéry – EPHE, 1919 route de Mende, 34293 Montpellier Cedex 5, France
3 INRA, USC 1338, CEFE UMR 5175, Université de Montpellier – Université Paul Valéry – EPHE, 1919 route de Mende, 34293 Montpellier Cedex 5, France

92. Incremental adaptation in crop management for integrated assessments of climate change impacts in Europe
Webber Heidi1, Britz Wolfgang2, Zhou G.1, de Vries Wim3, Wolf Joost4, Ewert Frank5
1 INRES, University of Bonn, Bonn, Germany
2 ILRI, University of Bonn, Bonn, Germany
3 Alterra, Wageningen University, Wageningen, the Netherlands
4 Plant Production Systems, Wageningen University, Wageningen, the Netherlands

93. Sensitivity of maize to climate change in Denmark: an analysis using impact response surface approach
Ozturk Isik, Sillebak K. Ib, Olesen E. Jørgen
Department of Agroecology, Aarhus University, Blichers Alle 20 DK-8830, Tjele, Denmark

94. Is it possible to reduce greenhouse gas emissions without reducing production? An assessment of 26 technical options
Pellerin Sylvain1, Bamière Laure2, Angers Denis3, Béline Fabrice4, Benoît Marc5, Butault Jean-Pierre6, Chenu Claire1, Colnenne-David Caroline8, De Cara Stéphane9, Delame Nathalie6, Doreau Michel6, Dupraz Pierre3, Faverdin Philippe10, Garcia-Launay Florence10, Hassouna Melynda11, Hénault Catherine12, Jeuffroy Marie-Hélène6, Klumpp Katja13, Metay Aurélie14, Moran Dominic15, Recous Sylvie16, Samson Elisabeth17, Savini Isabelle17, Pardon Lénaïc17
1 INRA, UMR ISPA, 33882 Villenave d’Ornon, France
2 INRA, UMR Eco-Pub, 78850 Thiverval-Grignon, France
3 Agriculture et Agroalimentaire Canada, Québec (Québec), G1V2J3, Canada
4 IRSTEA, UR GERE, 35044 Rennes, France
5 INRA, UMR Herbivores, 63122 Saint-Genes-Champanelle, France
6 INRA, UMR LÉF, 54042 Nancy, France
7 AGROPARISTECH, UMR IEES, 75005 Paris, France
8 INRA, UMR Agronomie, 78850 Thiverval-Grignon, France
9 INRA, UMR SMART, 35011 Rennes, France
10 INRA, UMR PEGASE, 35590 Saint Gilles, France
11 INRA, UMR SAS, 35042 Rennes, France
12 INRA, UR USS, 45075 Orléans, France
13 INRA, UR Ecosytième Prairial, 63039 Clermont-Ferrand, France
14 SUPAGRO, UMR SYSTEM, 34060 Montpellier, France
95. Agroforestry for a climate-smart agriculture – a case study in France
Cardinael Rémi, Chevallier Tiphaine, Germon Amandine, Jourdan Christophe, Dupraz Christian, Barthès Bernard, Bernoux Martial, Chenu Claire
1IRD, Umr Eco&Sols, 34060 Montpellier, France
2CIRAD, Umr Eco&Sols, 34060 Montpellier, France
3INRA, Umr System, 34060 Montpellier, France
4AgroParisTech, IEES, 78850 Thiverval-Grignon, France

96. Impacts of climate and socio-economic change at farm and landscape level in the Netherlands: climate smart agriculture?
Reidsma Pytrik, Bakker Martha M., Kanellopoulos Argyris, Alam Shah, Paas Wim, Kros Johannes, de Vries Wim
1Plant Production Systems Group, Wageningen University, P.O. Box 430, 6700 AK Wageningen, the Netherlands
2Land Use Planning Group, Wageningen University. P.O. box 47, 6700 AA Wageningen, the Netherlands
3Operational Research and Logistics Group, Wageningen University, Hollandseweg 1, 6706 KN Wageningen, the Netherlands
4School of GeoSciences, University of Edinburgh, Drummond Street, Edinburgh EH8 9XP, United Kingdom
5Farming Systems Ecology Group, Wageningen University, P.O. Box 430, 6700 AK Wageningen, the Netherlands
6Environmental Systems Analysis Group, Wageningen University, P.O. Box 47, 6700 AA Wageningen, the Netherlands

97. Sustainability of agriculture: can climate change adaptations attract youth into agriculture?
Betigül Onay Özeman
YADA Foundation (Yaşama Dair Vakfı), Turkey

L1.5 NORTH AMERICA

98. A research program to address agricultural stakeholders’ concerns regarding the evolution of crop pests associated with climate change
Blondlot Anne, Gagnon Annie-Ève, Bourgeois Gaétan, Brodeur Jacques, Mimee Benjamin and colleagues
1Ouranos, Montreal, Quebec, Canada
2Centre de recherche sur les grains (CÉROM), Saint-Mathieu-de-Belœil, Quebec, Canada
3Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, Quebec, Canada
4Institut de recherche en biologie végétale, Université de Montréal, Montreal, Quebec, Canada

99. Bioenergy crop impacts on soil carbon sequestration, soil biophysical properties and N₂O emissions in Manhattan, Kansas
McGowan Andrew, Yishak Elias, Rice Charles
1Department of Agronomy: Kansas State University, 66506, Manhattan, United States
2Department of Mechanical Engineering: University of Maryland, 20742, College Park, United States

100. Understanding farm level N₂O emissions in California systems
Decock Charlotte, Verhoeven Elizabeth, Pereira Engil, Garland Gina, Kennedy Taryn, Sudick Emma, Burger Martin, Horwath Willam, Six Johan
1ETH Zurich, Department of Environmental Systems Science, 8092 Zurich, Switzerland
2University of California Davis, Department of Plant Sciences, 95616 Davis, California, USA
3Woods Hole Research Center, 02540-1644 Falmouth, Massachusetts, USA
4University of California Davis, Department of Land, Air and Water Resources, 95616 Davis, California, USA

101. A transdisciplinary approach for climate smart management of maize
Wright Morton Lois, Arritt Raymond, the CSCAP Team
Iowa State University, Ames, Iowa 50011, USA
PARALLEL SESSION L2
CLIMATE-SMART STRATEGIES

Tuesday, 17 March 2015
14:00–18:00

ORAL PRESENTATIONS

PARALLEL SESSION L2.1
DEVELOPING AND EVALUATING CLIMATE-SMART PRACTICES

ROOM SULLY 1

KEYNOTE PRESENTATIONS

14:00 Developing and evaluating climate-smart practices and services
Campbell Bruce M.¹, Corner-Dolloff C.², Girvetz E.H.³, Rosenstock T.⁴
¹CIAT, c/o University of Copenhagen, Copenhagen, Denmark
²CIAT, Cali, Colombia
³CIAT, Nairobi, Kenya
⁴ICRAF, Nairobi, Kenya

14:30 Evaluating agricultural mitigation and scaling up climate-smart practices using the FAO EX-Ante Carbon balance Tool
Bernoux Martial¹, Bockel Louis², Grewer Uwe³, François Jean-Luc³, Rossin Nicolas⁴, Braimoh Ademola⁵
¹IRD, UMR Eco&Sols, 34060 Montpellier, France
²FAO, ESA, 00153 Rome, Italy
³AFD, ARB, Paris, France
⁴AFD, CLI, Paris, France
⁵World Bank, Washington DC, USA

CONTRIBUTED ORAL PRESENTATIONS

16:30 Rain water-based integrated agricultural system: a model for ensuring food security and adaptation in coastal Bangladesh
Talukder Byomkesh¹, Blay-Palmer Alison¹, van Loon Gary²
¹Department of Geography and Environmental Studies, Wilfrid Laurier University, Waterloo, Canada
²School of Environmental Studies, Queen’s University, Kingston, Canada

16:45 Additive impacts of climate-smart agriculture practices in mixed crop-livestock systems in Burkina Faso
Rigolot Cyrille¹,², De Voil P.³, Douchamps Sabine⁴, Prestwidge Di¹, Van Wijk Mark¹, Thornton Phillip¹, Henderson B.¹, Medana Hidalgo D.¹, Rodriguez Daniel¹, Herrero Mario¹
¹Commonwealth Scientific and Industrial Research Organization, St Lucia, QLD 4067, Australia
²INRA, UMR 1273 Metafort, F-63222 Saint Genes Champanelle, France
³University of Queensland, Queensland Alliance for Agriculture and Food Innovation (QAAFI), Toowoomba, Australia
⁴International Livestock Research Institute (ILRI), Ouagadougou, Burkina Faso
⁵International Livestock Research Institute (ILRI), PO Box 30709-00100, Nairobi, Kenya

17:00 Developing indicators for Climate-Smart Agriculture (CSA)
Rawlins Maurice Andres, Heumesser Christine, Emenanjo Ijeoma, Zhao Yuxuan, Braimoh Ademola
The World Bank Group, 1818 H St. NW, Washington DC, USA

17:15 Towards metrics to track and assess climate smart agriculture
Verhagen Jan, Huib Hengsdijk, Sjaak Conijn, Annemarie Groot, Nico Polman, Theun Vellinga, Eddy Moors
Wageningen UR, droevendaalsesteeg 4, 6708 pb, Wageningen, the Netherlands
PARALLEL SESSION L2.2
FACING CLIMATIC VARIABILITY AND EXTREMES

ROOM SULLY 2

KEYNOTE PRESENTATIONS

14:00 Facing climatic variability and extremes
Zougmoré Robert1, Rao K.P.C.2, Diedhiou Arona3
1ICRISAT-Mali, BP 320 Bamako Mali
2ICRISAT Ethiopia, PO Box 5689, Addis Ababa, Ethiopia
3Université de Grenoble, BP 53, 38041, Grenoble Cedex 9, France

14:30 Rainfall modifications in the context of climate change: the puzzle of the tropical regions
Lebel Thierry, Vischel Théo
LTHE, IRD & Université de Grenoble, BP 53, 38041, Grenoble Cedex 9, France

CONTRIBUTED ORAL PRESENTATIONS

16:30 The potential for underutilised crops to improve food security in the face of climate change
Massawe Festo1, Mayes Sean1,2, Cheng A.1, Chai, H.H.3, Cleasby P.4, Symonds R.5; Ho W.K.6, Siise Aliyu1, Wong O.1, Kendabie P.1, Yanusa Y.1, Azman R.1, Azam-Ali Sayed N.7
1University of Nottingham Malaysia Campus, Malaysia
2Crops for the Future, Malaysia
3University of Nottingham, United Kingdom
4Bayero University Kano, Nigeria

16:45 Changes in climate variability and potential for impacts of droughts on agricultural markets
Leclère David, Havlik Petr
International Institute for Applied System Analysis (IIASA), Ecosystem Services Management program (ESM), Laxenburg, Austria

17:00 How precisely do maize crop models simulate the impact of climate change variables on yields and water use?
Durand Jean-Louis1, Bassu Simona2, Brisson Nadine2, Boote Kenneth3, Lizaso Jon4, Jones James W.5, Rosenzweig Cynthia6, Ruane Alex C.6, Adam Myriam7, Baron Christian8, Basso Bruno9,10, Biennath Christian11, Boogaard Hendrik12, Conijn Sjaak13, Corbeels Marc4, Deryng Delphine15, de Santis Giacomo16, Gayler Sebastian17, Grassini Patricio18, Hatfield Jerry19, Hoek Steven20, Izaurralde Cesar20, Jongsaap Raymond R 21, Kemanian Armen R.21, Kersebaum K. Christian22, Kim Soo-Hyung23, Kumar Naresh S.24, Makowski David1, Müller Christoph25, Nendel Claas26, Priesack Eckart25, Pravia Maria Virginia25, Sau Federico6, Schcherbak Iuri27, Tao Fulu26, Teixeira Edmar27, Timlin Dennis28, Waha Katharina29
1Unité de Recherche Pluridisciplinaire sur la Prairie et les Plantes Fourragères, INRA, BP 80006, Lusignan, 86600, France
2Unité d’Agronomie, INRA-AgroParisTech, BP 01, Thiverval-Grignon, 78850, France
3Department of Agronomy, University of Florida, P.O. Box 110500, Gainesville, FL 32611, USA
4Department Produccion Vegetal, Fitotecnia, University Politècnica de Madrid, Madrid, 28040, Spain
5Department of Agricultural & Biological Engineering, University of Florida, P.O. Box 110570, Gainesville, FL 32611, USA
6Climate Impacts Group, NASA Goddard Institute for Space Studies, 2880 Broadway, New York, NY 10025, USA
7UMR AGAP/PAM, CIRAD, Av. Agropolis, Montpellier, France,
8CIRAD, UMR TETIS, 500 rue J-F. Breton, Montpellier, F-34093, France
9Department of Geological Sciences, Michigan State University, East Lansing, MI, USA
10Department Crop Systems, Forestry and Environmental Sciences, University of Basilicata, Potenza, Italy
11Institute für Bodenökologie, Helmholtz Zentrum München, Ingolstädter Landstraße 1, D-85764, Neuherberg, Germany
12Centre for Geo-Information, Alterra, P.O. Box 47, Wageningen, 6700AA, the Netherlands
13WUR-Plant Research International, Wageningen University and Research Centre, P.O. Box 16, 6700AA, Wageningen, the Netherlands
14CIRAD-Annual Cropping Systems, C/O Embrapa-Cerrados Km 18, BR 020 - Rodovia Brasilia/Fortaleza, CP 08223, CEP 73310-970, Planaltina, DF, Brazil
15Tyndall Centre for Climate Change research and School of Environmental Sciences, University of East Anglia, Norwich, NR4 7TJ, United Kingdom
PARALLEL SESSION L2.3
COMBINING MITIGATION, ADAPTATION AND SUSTAINABLE INTENSIFICATION

ROOM SULLY 3

KEYNOTE PRESENTATIONS

14:00 Ex-ante evaluation of Climate-Smart Agriculture options
Cassman Kenneth1, van Ittersum M. K.2, Hochman Z.3, McIntosh P.3, Grassini P.1, Yang H.4, van Bussel L.G.J.2, Guilpart N.1, Van Wart J.1, Claessens L.4, Boogaard H.5, de Groot H.1, Wolf J.1, van Oort P.5
1Univ. of Nebraska, USA 2Wageningen University, the Netherlands 3CSIRO, Australia 4ICRISAT, Kenya 5AfricaRice

14:30 Will sustainable intensification get us to 2 degrees Celsius?
Wollenberg Lini1, Richards Meryl1, Havlik Petr2, Smith Pete1, Carter Sarah3, Herold Martin4
1CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), Gund Institute for Ecological Economics, University of Vermont, USA 2International Institute for Applied Systems Analysis (IIASA), Austria 3University of Aberdeen, United Kingdom 4Wageningen University and Research Centre, the Netherlands
CONTRIBUTED ORAL PRESENTATIONS

16:30 Climate readiness in smallholder agricultural systems: Lessons learned from REDD+
Zurek Monika, Streck Charlotte, Roe Stephanie, Haupt Franziska with contributions from Wollenberg Lini and de Pinto Alex
Climate Focus, Sarphatikade 13, 1017 WV Amsterdam, the Netherlands

16:45 Assessing low emissions agricultural pathways under alternative climate policy regimes
Kleinwechter Ulrich¹, Havlík Petr², Levesque Antoine², Forsell Nicklas¹, Zhang Yuqian W.¹, Fricko Oliver³, Riahi Keywan³, Obersteiner Michael³
¹International Institute for Applied Systems Analysis (IIASA), Ecosystems Services and Management Program, Schloßplatz 1, 2361 Laxenburg, Austria
²International Institute for Applied Systems Analysis (IIASA), Energy Program, Schloßplatz 1, 2361 Laxenburg, Austria

17:00 Climate-smart coffee systems in East Africa
Jassogne Laurence¹, van Asten Piet¹, Laderach Peter¹, Liebig Theresa², Rahn Eric², Baca Maria², Graefe S.³, Whitbread Anthony³, Nibasumba Anaclet⁴, Ampaire Edidah⁵, Kagezi Godfrey⁶, Vaast Philippe⁶
¹International Institute of Tropical Agriculture (IITA), P.O.7878, Kampala, Uganda
²International Center of Tropical Agriculture (CIAT), Cali, Colombia
³Goettingen University, Goettingen, Germany
⁴Institut des Sciences Agronomiques du Burundi (ISABU), Bujumbura, Burundi
⁵National Coffee Research Institute (NaCORI), CSIR- CRI, PO Box 3785, Kumasi, Ghana
⁶University of Witwatersrand (WITS), South Africa

17:15 Prioritizing climate-smart agricultural interventions at multiple spatial and temporal scales
Shirsath Paresh B.¹, Dunnett Alex², Aggarwal Pramod K.³, Ghosh J.⁴, Joshi Pramod K.⁴, Thornton Phillip⁵, Pal B.¹
¹PDF- Climate Change Adaptation, CCAFS, IWMI-New Delhi, India
²CCAFS, IWMI-New Delhi, India
³CCAFS-South Asia, IWMI-New Delhi, India

PARALLEL SESSION L2.4
BREEDING AND PROTECTING CROPS AND LIVESTOCK

ROOM RONDELET

KEYNOTE PRESENTATIONS

14:00 Plant breeding for climate-smart agriculture
Glaszmann Jean Christophe
UMR Amélioration Génétique et Adaptation des Plantes (Agap-DDSE), CIRAD, France

14:30 What impact of climate change on animal health?
Lancelot Renaud, Guis Hélène, Lefrançois Thierry
Cirad, INRA, UMR CMAEE, France

CONTRIBUTED ORAL PRESENTATIONS

16:30 Reducing nitrogen run-off and emission, and increasing rice productivity in African rice production environment
van Boxtel Jos¹, Selvaraj Michael², Darley Kofi³, Lamo Jimmy⁴, Asante Maxwell⁵, Lu Zhongjin⁶, Ishitani Manabu⁶, Addae Prince⁵, Sanni Kayode⁵
¹Arcadia Biosciences, Davis CA 95618, USA
²CIAT, AA6713 Cali, Colombia
³World Agroforestry Centre (ICRAF - CIRAD), Nairobi, Kenya
⁴National Center of Tropical Agriculture (CIAT), Cali, Columbia
⁵NCRI, PO Box 3785, Kumasi, Ghana
⁶AATF, PO Box 30709, Nairobi, Kenya

16:45 Utilization of ex situ collections and climate analogues for enhancing adaptive capacity to climate change
Archak Sunil¹, Semwal D.P.¹, Pandey Sushil², Mittra Sarika³, Mathur P.N.², Aggarwal Pramod³, Bansal K.C.³
¹ICAR-National Bureau of Plant Genetic Resources, Pusa Campus, New Delhi 110 012, India
²CSIR- CRI, PO Box 3785, Kumasi, Ghana
³NARO-NaCRRI, Box 7084, Kampala, Uganda
⁴AATF, PO Box 30709, Nairobi, Kenya
17:00 Adaptation of Mediterranean bovine livestock to climate constraints. Genetic diversity and breeding systems
Flori Laurence1,2, Moazami-Goudarzi Katayoun3, Lecomte Philippe3, Moulin Charles-Henri3,4, Thévenon Sophie5, Alary Véronique6, Casabianca François5, Lauvie Anne5, Bouchaba Nadjet6, Saidi-Mehtar Nadhira6, Boujenane Ismail7, Araba Abdelillah7, Menni Dalal7, Pineau Olivier8, Ciampolini Roberta9, Casu Sara10, ElBeltagy Ahmed11, Osman Mona-Abdelzaher11, Rodellar Clemen11, Martinez Amparo11, Delgado Juan-Vicente11, Landi Vincenzo12, Hadjipavlou Georgia12, Ligda Christina12, Gautier Mathieu12, Laloe Denis11
1 INRA/AgroParisTech, GABI, 78352 Jouy-en-Josas, France
2 Cirad, INTERTRYP, 34000 Montpellier, France
3 Cirad, SELMET, 34000 Montpellier, France
4 Montpellier SupAgro, SELMET, 34000 Montpellier, France
5 INRA, LRDE, 20250 Corte, France
6 Université des Sciences et de la Technologie d’Oran, Département de Génétique Moléculaire Appliquée, 31000 Oran, Algeria
7 Institut Agronomique et Vétérinaire Hassan II, Département de Productions et de Biotechnologies Animales, 10101 Rabat, Morocco
8 La Tour du Valat, 13104 Arles, France
9 Dipartimenta di Scienze Veterinarie, LBG, 56124 Pisa, Italy
10 Agris Sardegna, Settore Genetica e Biotecnologie, 07100 Sassari, Italy
11 APRI, Animal Breeding and Genetics, Cairo, Egypt
12 Facultad de Veterinaria, Lagenbio, 50013 Zaragoza, Spain
13 Animal Breeding Consulting SL, Laboratorio de Genetica Molecular Aplicada, 14071 Cordoba, Spain
14 Agricultural Research Institute, 1010 Lefkosia, Cyprus
15 Veterinary Research Institute, NAGREF, 57001 Thessaloniki, Greece
16 INRA/IRD/Cirad/Montpellier SupAgro, CBGP, 34988 Montferrier-sur-Lez, France

PARALLEL SESSION L2.5
OVERCOMING BARRIERS: POLICIES AND INSTITUTIONAL ARRANGEMENTS TO SUPPORT CSA

ROOM BARTEZ

KEYNOTE PRESENTATIONS

14:00 Overcoming barriers: policies and institutional arrangements to support CSA
Lipper Leslie
FAO Rome, Via delle Terme di Caracalla, Rome, Italy

14:30 Policies and institutions conducive for enhancing the transfer to CSA in Africa
Sedogo Laurent1, Lamers John2, William Fonta3
1 Executive Director WASCAL Accra, Ghana
2 Coordinator of the Core Research Program of WASCAL, ZEF- University of Bonn, Germany
3 Research Coordinator, WASCAL Competence Center Ouagadougou, Burkina Faso

CONTRIBUTED ORAL PRESENTATIONS

16:30 Schools as climate smart agriculture information hubs
Manalo Jaime IV A., Layaoen Myriam G., Balmeo Katherine P., Berto Jayson C., Frediles Christina A., Saludez Fredierick M.
Development Communication Division, Philippine Rice Research Institute, Maligaya, Science City of Munoz, Nueva Ecija 3119, Philippines

16:45 Advancing CSA solutions through global collaboration: the Global Research Alliance on Agricultural Greenhouse Gases
Clark Harry1, Scholten Martin2
1 NZAGRC, Tennent Drive, Private Bag 11008, Palmerston North 4442, New Zealand
2 Wageningen UR, Droevendaalsesteeg 4, 6708 PB Wageningen, the Netherlands
17:00 Using whole-farm models for policy analysis of climate smart agriculture
Paolantonio Adriana¹, Branca Giacomo¹, Arslan Aslihan¹, Cavatassi Romina¹, Cacho Oscar²
¹Agricultural Development Economics Division, Food and Agriculture Organization of the UN, Viale delle Terme di Caracalla, Rome 00153, Italy
²University of New England, Armidale NSW 2350, Australia

17:15 Climate shocks and risk attitudes among female and male maize farmers in Kenya
Wainaina Priscilla¹, Tongruksawattana Songporne², De Groote Hugo², Gunaratna Nilupa³
¹Department of Agricultural Economics and Rural Development; Georg-August-University of Goettingen, Germany
²International Maize and Wheat Improvement Center (CIMMYT), Nairobi, Kenya
³Department of Global Health and Population, Harvard School of Public Health, Massachusetts, USA

POSTER SESSION 2
Tuesday, 17 March 2015
15:00 – 16:30
EXHIBITION HALL, LEVEL 0

L2.1 DEVELOPING AND EVALUATING CLIMATE SMART PRACTICES

1. Climate Smart Management Options for Improving the Soil Fertility and Farm Productivity in the Middle Hills of Nepal
Shrestha Shiva Kumlar, Shrestha A., Bishwakarma B. K., Allen R.
Sustainable Soil Management Programme (SSMP), HELVETAS Swiss Intercooperation Nepal, GPO Box 688, Kathmandu, Nepal

2. Linking an ecological based system and social resilience to build Climate Smart village model in Niger
Tougiani Abasse¹, Adamou Basso¹, Boureima Moussa¹, Jules Bayala² and Robert Zougmore³
¹Institut National de Recherche Agronomique du Niger, BP429, Niamey, Niger
²World Agroforestry research Centre, Sahel Node, Samanko, BP: E5118, Bamako, Mali
³Programme CCAFS Afrique de l’Ouest, ICRISAT PO Box 320 Bamako, Mali

3. Agriculture, climatic risks and food security in disaster-prone coastal landscape of Bangladesh
Ronju Ahammad
Charles Darwin University, Australia

4. Assessing economic benefits of the use of climate seasonal forecasts within cowpea and sesame sectors in Burkina Faso
Ouédraogo Mathieu¹, Barry Silamana², Kagambega Levy², Somé Léopold², Zougmore Robert¹
¹The CGIAR Research Program on Climate Change, Agriculture and Food Security, West Africa Region, ICRISAT, BP 320, Bamako, Mali
5. Measurement of climate change and its effect: comparison between an objective method and population perceptions
Azeufouet Alain Simplice, Fofiri Nzossie Eric Joël, Bring Christophe

6. A set of indicators to evaluate policies for climate smart agriculture
Bonati Guido, Altobelli Filiberto

7. Developing and evaluating CSA practices at country level: lessons learned from Malawi
Phiri George, Lipper Leslie, Asfaw Solomon, Cattaneo Andrea, Cavatassi Romina, Paolantino Adriana, McCarthy Nancy, Spairani Alessandro, Branca Giacomo, Grewer Uwe, Mann Wendy

8. Developing and evaluating CSA practices at country level: lessons learned from the Zambian experience
Kokwe Misael, Lipper Leslie, Arslan Aslihan, Cattaneo Andrea, McCarthy Nancy, Spairani Alessandro, Branca Giacomo, Grewer Uwe, Mann Wendy

9. Millet and sorghum leaf pruning and transplantation as adaptation techniques to rainfall variability in the Sahel

10. CSA menus of practices in the MICCA pilots
Rioux Janie, Rosenstock Todd, Kirui Josephine, Mpanda Mathew, Massoro Erasto, Karttunen Kaisa

11. Sustainability of broiler production in the context of climate change – Evaluation of new incubation strategies
Nyuiadzi Dzidzo, Méda Bertrand, Travel Angélisque, Berri Cécile, Bignon Laure, Leterrier Christine, Guilloteau Laurence, Coustham Vincent, Dusart Léonie, Merceron Frédéric, Delaveau Joël, Grasteau Sandrine, Tona Kokou, Bouvarel Isabelle, Collin Anne

Additional affiliations:

2LEAD Analytics, Washington DC, USA
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6Senior Policy Consultant, FAO Rome, Italy
7Institut de l’Environnement et de Recherches Agricoles (INERA), 04 BP 8645 Ouagadougou 04, Burkina Faso
8Ministère de l’Agriculture et du développement rural / DESA, BP. 294 issea Yaoundé, Cameroon
9Département de géographie, Université de Ngaoundéré BP 454, Cameroon
10CSA Technical Coordinator, FAO, Malawi
11Senior Environmental Economist, FAO Rome, Via Nomentana 41, 00161 Roma, Italy
12Economist, FAO Rome, Italy
13CSA Project Coordinator, FAO Rome, Italy
14LEAD Analytics, Washington DC, USA
15CSA project officer, FAO Rome, Italy
16University of Tuscia, Viterbo, Italy
17Agricultural Mitigation Consultant, FAO Rome, Italy
18Senior Policy Consultant, FAO Rome, Italy
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20Senior Environmental Economist, FAO Rome, Via delle Terme di Caracalla, Rome, Italy
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22CSA Project Leader, FAO Rome, Italy
23FAO, Rome, Via delle Terme di Caracalla, Rome, Italy
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12. An analytical framework for Climate-Smart Agriculture at the community level
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13. Are cropping practices developed by Sub-Saharan farmers climate-smart? Case study of millet cropping system in Senegal
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14. Namibia specific climate smart agricultural land use practices: a budding vehicle for improving ecosystem services
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15. A two-dimension evaluation of CSA practices. Evaluating practices by indicators and reduce non-observable variable bias
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16. Balancing complexity and usability when modelling farm scale production and greenhouse gas emissions
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17. An impact assessment of distinct agricultural climate protection measures for the implementation on 10 000 Swiss farms
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19. Analysing constraints to the improvement of cattle productivity via trypanosomosis treatment in West Africa
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20. Emission of N2O from soil received saline and sodic water: effects of compost and gypsum applications
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21. Climate-Smart Agriculture livelihood options for displaced population on Yap Island
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22. Evaluating the cost-effectiveness of development investments
Luedeling Eike1, De Leeuw Jan2, Rosenstock Todd S.2 Lamanna Christine6, Shepherd Keith7
23. MAPA project: resilient agro-climatic adaptation models for livestock production systems in Boyacá, Colombia
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24. Assessing the determinants of adaptation strategies at farm level: the case of wine growers in South-East France
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25. Determinants of adoption of climate smart agriculture in coastal Bangladesh
Saroar Md Mustafa
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26. Evolution of soil functional diversity after changes in management practices and effects on N₂O emissions
Recous Sylvie1, Léonard Joël2, Alavoine Gonzague3, Amossé Joël1,2, Bertrand Michel2, Boizard Hubert2, Brunet Nicolas2, Chauvat Matthieu4, Cheviron Nathalie5, Cluzeau Daniel6, Coudrain Valérie3,5, Dequiet Samuel7, Duparque Annie8, Duval Jérôme9, Hedde Mickaël10, Maron Pierre-Alain11, Peyrard Céline11, Philippot Laurent11, Mary Bruno2
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27. Opportunities and challenges in China’s irrigation water–energy nexus
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28. A climate smart strategy to reduce risks and increase resilience of agricultural production systems in Colombia
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29. Interpretation of GHG emissions from mixed crop, grassland and ruminant systems using the FarmSim model
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30. DAYCENT parameterization and uncertainty assessment for modelling Swiss crops
31. The yield response of intercrop system to rainfall changes on the southern slopes of Mt. Kenya in Embu

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32. Rain water harvest technology as a tool for climate smart agriculture for small holder farmer in Bangladesh

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33. Greenhouse gases emission efficiency of alternative tillage practices in wheat farming systems of Bangladesh

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34. Enabling synergies between development, climate change and conservation through land use practices portfolio approach

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35. Coffee agroforestry systems in Peru – a double dividend for biodiversity and small scale farmers?

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36. Soil carbon input by below- and above-ground biomass in rainfed cropping systems in the highlands, Madagascar

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37. Climate Smart livestock development in natural and improved savannas of an extensive ranch in central Africa (RDC)

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38. Targeting CSA in Southern Tanzania under multiple uncertainties

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39. Opportunities and limitations of emissions intensity as a metric for climate change mitigation from the livestock sector

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40. Climate smart agriculture from field to farm scale: a model based approach for Southern Africa

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41. Mainstreaming climate smart agriculture practices through climate smart villages: scalable evidences from South Asia
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42. Towards a scalable framework for evaluating and prioritizing climate-smart agriculture practices and programs
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43. Repeated inputs of organic matter in the long term protect soils from global changes
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44. The use of agroforestry practices by dairy farmers in Malawi
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45. Towards climate-smart dairy value chains in Tanzania
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46. Adapting pest management practices in sub-Saharan horticultural cropping systems in the context of climate change
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47. Promoting Climate Smart Agriculture in Nigeria: Household strategies and determinants among farmers
48. Climate forecast, sustainable land and practices management, useful tools for implementation a climate smart village
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49. Characterization of biochar properties derived from willow plant biomass for carbon sequestration and agricultural use
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50. Assessing mitigation potential of agricultural practices in tropical, developing country systems
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51. PERPHECLIM ACCAF Project - Perennial fruit crops and forest phenology evolution facing climatic changes
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52. Potential for biochar to mitigate N₂O emissions is minimal at the field scale and in upland cropping systems
Verhoeven Elizabeth¹,², Pereira Engilí,² Decock Charlotte², Suddick Emma¹,², Angst Teri³, Six Johan¹,²
53. Facilitating climate adaptation in irrigated agriculture with decision support systems: El Molino platform
Meza Francisco\textsuperscript{1,2}, Poblete David\textsuperscript{1}, Vicuña Sebastian\textsuperscript{1}, Gurovich Luis\textsuperscript{1,2}, Miranda Marcelo\textsuperscript{1,2}, Melo Oscar\textsuperscript{1,2}
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54. A model-based approach for adapting cropping systems to climate change
Mottes Charles\textsuperscript{1,2}, Makowski David\textsuperscript{1,2}, Doré Thierry\textsuperscript{1,2}
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55. Tweaking the system: optimization of mitigation strategies in smallholder flooded rice systems
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56. Effect of coated and uncoated dietary nitrate on dairy cow health and dairy product quality
Van Adrichem Peter S.J.\textsuperscript{1}, Heck Jeroen M.L.\textsuperscript{2}, Perdok Hink B.\textsuperscript{1}, Rademaker Jan L.W.\textsuperscript{1}, Newbold John R.\textsuperscript{1}
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57. Rainwater harvesting and conservation: climate smart sustainable techniques for homestead and cropland production
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58. Pathways for Climate Smart Agriculture (CSA) in the drylands of Africa
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59. Climate-smart agriculture: panacea, propaganda or paradigm shift?
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60. Evaluating agricultural mitigation and scaling up climate-smart practices using the FAO EX-Ante Carbon-balance Tool
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61. Characterization, stability, availability of nutrients and microbial effects of kiln produced biochars
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62. Effect of pyrolysis temperatures on stability and priming effects of C3 and C4 biochars applied to two different soils
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63. Smallholders farm carbon footprint reduced by agroecological practices (Highlands & East Coast, Madagascar)
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64. Climate Smart Agriculture imperative in Nepal: prospect and challenges
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65. Big data from small farms: analysis of drivers of food security across farming systems in sub Saharan Africa
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8University of Queensland, Toowoomba, Australia
9Wageningen University, Wageningen, the Netherlands
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66. Participatory action research in climate-smart villages of Tanzania: fast track for new potato resilient varieties
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3Northern Zone Agricultural Research Institute (NZARDI), Integrated Soil Fertility Management, P.O. Box 6024, Arusha, Tanzania
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67. Prospects of climate smart agriculture (CSA) under low-input and rain-fed conditions in southern Africa
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68. Climate change, promising technologies and ex ante analysis of impacts on agriculture and food security to 2050

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69. Strategies for developing climate resilient genotypes of rice and chickpea

Chaturvedi Ashish K., Pal Madan
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70. Simulation of spot blotch in wheat as strategic decision support for adaptation practice in changing scenario

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71. To evaluate reforestation in farms: a tool for smallholders and the sustainability of their initiatives (EvaRefo)

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viiReventazón Model Forest Alliance, CATIE 7170 30 501 Turrialba, Costa Rica
viiiCuso International, 44 Eccles St #200, Ottawa, ON K1R 7K2, Canada

72. Backyard potted yam cultivation in Abuja, Nigeria

Adedotun Oke Michael
Foundation No Tafida Tal Avenue Compensation Layout Gwagwalada, P.O. Box 11611, Garki Abuja, Nigeria

73. Meta-analysis of the effect of dietary nitrate on enteric methane emissions in ruminants

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74. Climate smart strategies to strengthened coffee farmers adaptive capacity to climate change

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75. Linking agricultural adaptation strategies and food security: evidence from West Africa

76. Quantifying greenhouse gas emissions and carbon storage at the local scale in the U.S.
Marlen D. Eve, Walsh Meg
U.S. Dept of Agriculture, Climate Change Program Office, 1400 Independence Ave SW, Rm 4407 South Building, Washington, DC 20250, USA

77. A systemic approach to evaluate shea parklands as possible smart agriculture to be intensified in Sudanese Africa
Seghieri Josiane, et al. (all the RAMSES project team, i.e., 8 French joint research units + African partners: INRAB-Benin + INERA Burkina Faso)
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78. Participatory methodology of agricultural extension to Climate Smart Agriculture development: a case in Brazil
Guyot Marina Souza Dias
ESALQ/UNIVERSITY OF SAO PAULO. Applied Ecology Program. Av. Pádua Dias, 11 13428-900 Piracicaba, Brazil

79. Consequences of high temperatures and drought on peach fruit production strongly depend on their period of occurrence
Adra Fatima1, Vercambre Gilles1, Plenet Daniel1, Bakan Bénédicte2, Noblet Agathe1, Ammar Aroua1, Mickael Maucourt4,5, Stéphane Bernillon3,5, Catherine Deborde3,5, Moing Annick3,5, Gibon Yves3,5, Gautier Hélène1
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80. Reducing uncertainty in prediction of wheat performance under climate change


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81. Managing climate induced risks and adaptation in the agriculture sector; a case of Punjab province Pakistan
Abid Muhammad, Scheffran Jürgen
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82. Veille Agro Climatique (VAC): a real time monitoring tool for agroclimatic conditions
Huard Frédéric, Ripoche Dominique, Persyn Benoit
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83. Modelling of extreme climate events for South Africa using historical data and general circulation models
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84. Beyond incremental change: transformation to climate-smart agriculture in response to changing extremes
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85. Strengthening the capacity of local extension services to face agroclimatic risks for production systems
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86. Grassland manipulation experiments across climatic zones
Picon-Cochard Catherine¹, Diop Amadou Tamsir², Finn John³ Fischer F.⁴, Hassen Abubeker⁵, Haughey Eamon⁶, Hofer Daniel⁶, Lüscher Andreas⁴, Nagy Zoltan⁵,⁸ Usmane Ndiaye⁶, Pillar Valéria⁶, Pintér Kristztina⁶, Suter Matthias⁶, Talore Deribe Gemiyu⁵, Tesfamariam Eyob⁵, Soussana Jean-François¹
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87. Building a global framework for banana resilience and adaptation under increased weather variability and uncertainty
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²Bioversity International, Km 17, Recta Cali-Palmira, Cali, Colombia
88. Gauging the effects of extreme climate events on European crop yields
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89. Development of district contingency plans as a coping strategy to face climate variability and extremes in agriculture
Yenumula Gerard Prasad1, Cherukumalli Srinivasarao0, Ravindrachary G.3, Rao K.V.2, Ramana D.B.V.1, Rao V.U.M.1, Venkateswarlu B.3, Sikka A.K.3
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90. Why role of local institution is crucial in Climate Smart Agriculture? Some evidence from rice-wheat system of Nepal
Dhanej Thapa1, Chhatra Mani Sharma1
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2Department of Development Studies/Kathmandu University, Nepal

91. Introducing a legume cover crop in rubber plantations is not necessarily an option for their sustainability in dry areas
Clermont-Dauphin Cathy1,2, Suvannang Nopmanee2, Pongwichian Pirach3, Cheylan Vincent4,5, Hamecker Claude3,2, Harmand Jean-Michel2
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92. Sustainability of the Koga irrigation scheme: adaptive water management to deal with climate variability and change
Beza Berhanu Demissie, Alemseged Tamiru Haile International Water Management Institute (IWMI), Ethiopia

93. Pearl millet yields and climate evolution across the last 20 years in central Senegal. A yield gap study
Kouakou Patrice1,2, Muller Bertrand3,5, Affholder François5, Guissé Aliou1, Sultan Benjamin6
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94. Effective adaptation strategies and risk reduction to increased climatic variability among coffee farmers in Mesoamerica
Castellanos Edwin1, Tucker Catherine2, Barrera Juan3, Diaz Rafael4
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95. Impact of climate change on crop production in southern Mali and the potential of adaptation strategies
Traore Bouba¹, Corbeels Marc², van Wijk Marc T.³, Descheemaeker Katrien², Giller Ken E.³
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96. Use of regional climate model output for modelling the effects of future extremes in agriculture
Christensen Ole B.¹, Fox Maule C.¹, Cornes R.², Goodess C.³, Bellocci Gianni³
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97. Drought resistant and resilient plant functional types can maintain production in intensively managed grassland
Hofer Daniel¹,², Suter Matthias¹, Hoekstra Nyncke J.¹,², Haughey Eamon¹, Finn John A.¹, Buchmann Nina³, Lüscher Andreas³
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³ETH Zürich, Institute of Agricultural Sciences, Universitätsstrasse 2, CH-8092 Zürich, Switzerland

98. Phenotypic variation among and within thirty accessions of Onobrychis vicifolia examined under climate change scenarios
Malisch Carsten¹,², Suter Daniel¹, Studer Bruno³, Salminen Juha-Pekka³, Lüscher Andreas³
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99. Participatory assessment of vulnerability to climate change for improved adaptations to climate smart agriculture
Guddanti Nirmala, K Ravi Shankar, Ch. Srinivasa Rao
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100. Adaptation strategies for livestock production systems in a changing environment
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101. Impact of climate extreme and variability on agriculture: a case from mountain community of eastern Nepal
Shrestha Nicky Shree¹, Dahal Piyush², Pradhananga Dhiraj³
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²The Small Earth Nepal, Kathmandu, Nepal
³Nepal Academy of Science and Technology, Kathmandu, Nepal

102. Analyses of extreme weather events and its impact to agriculture smallholders in Gandaki River Basin of Nepal Himalaya
Dahal Piyush¹, Shrestha Nicky Shree², Shrestha Madan Lall³, Panthi Jeeban³, Krakauer Nir Y⁴
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103. Developmental competence and expression pattern of heat shock protein genes in buffalo oocytes during heat stress
Ashraf Syma\textsuperscript{1}, Dhanda Suman\textsuperscript{2}, Shah Syed Mohamad\textsuperscript{1}, Saini Neha\textsuperscript{3}, Kumar Anil\textsuperscript{2}, Goud Sridhar\textsuperscript{3}, Chauhan Manmohan\textsuperscript{1}, Upadhyay Ramesh\textsuperscript{1}
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104. Heat tolerance in wheat identified as a key trait for increased yield potential in Europe under climate change
Semenov Mikhail A. Stratonovitch P.
Computational and Systems Biology Department, Rothamsted Research, Harpenden, Herts, AL5 2JQ, United Kingdom

105. Is livelihood diversification Climate-Smart Agricultural strategy? Micro-evidence from Malawi
Asfaw Solomon\textsuperscript{1}, McCarthy Nancy\textsuperscript{2}, Cavatassi Romina\textsuperscript{3}, Paolantonio Adriana\textsuperscript{2}, Amare Mulubrhan\textsuperscript{1}, Lipper Leslie\textsuperscript{1}
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106. Prospering rural vulnerable despite climate change: implications for “Triple Win”
Ashraf Saleem\textsuperscript{1}, Iftikhar Muhammad\textsuperscript{2}
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\textsuperscript{2}Institute of Agricultural Extension and Rural Development, University of Agriculture Faisalabad, Pakistan

107. Participatory climate risk management at short-term and seasonal scales – examples from South Asia
Nidumolu Uday\textsuperscript{3}, Roth Christian\textsuperscript{2}, Howden Mark, Hochman Zvi\textsuperscript{5}, Hayman Peter\textsuperscript{2}, Raji Reddy D.\textsuperscript{3},
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\textsuperscript{7}South Australian Research & Development Institute (SARDI), Hartley Grove Street, South Australia 5064, Australia

108. Establishment of dynamic-transfer system for agro-climate knowledge and farmers’ response
Fahim M. A.\textsuperscript{1}, Abou Hadid A.F.\textsuperscript{1}, El-Marsafawy S.M.\textsuperscript{2}
\textsuperscript{1}the Climate Change Information Center and Renewable Energy (CCICRE), 9 Cairo Univ., 12619 Giza, Egypt
\textsuperscript{2}the Central Laboratory for Agricultural Climate (CLAC), 6 Dr. Michail Bakhoum st., Dokki 12411 Giza, Egypt

109. Empirical assessment of climate change on major agricultural crops of Punjab, Pakistan
Afzal Muhammad\textsuperscript{1}, Ahmad Tanveer\textsuperscript{2}
\textsuperscript{1}Research Scholar in Forman Christian College, Lahore, Pakistan
\textsuperscript{2}Associate Professor of Economics in Forman Christian College, Lahore, Pakistan

110. Perceptions on climate change and impacts on ecosystem services in eastern Africa: implications for policy actions
Sokoine University of Agriculture, P.O. BOX 3007 Chuo kikuu, Morogoro, Postcode: +255, Tanzania

111. Irrigation management of salt water: study of potato and pea grown in intercropping with olive in southern Tunisia
Ben Hassen Nadia\textsuperscript{3}, Nagez Kamel\textsuperscript{1}
\textsuperscript{1}National institution pf agronomy of Tunisia (INAT), Tunisia
112. Assessment of the variability of yield of maize in Lilongwe district in relation to climate using DSSAT model
Kamanga Mphangera1, Mhango Wezzie-Bunda2
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L2.3 COMBINING MITIGATION, ADAPTATION AND SUSTAINABLE INTENSIFICATION

113. Agricultural intensification trajectories and climate smart agriculture in Nicaraguan tropical systems
Carreño-Rocabado Geovana1,2, Oblitas Samuel3, Somarrriba Eduardo1, Ordóñez Jenny1,2
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114. Value of estimating farm GHG budgets making use of process-based modelling
Bannink André1, Lanigan Gary2, Hutchings Nick3, Van Den Pol-Van Dasselaar Agnes4
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2Teagasc, Johnstown Research Centre, PO Box 300, Co Wexford, Ireland
3University of Aarhus, PO Box 50, Research Centre Foulum BB30 Tjele, Denmark

115. Farmer’s perceptions on climate change and prospects for climate smart agriculture along the tree cover transition curve
Ordóñez Jenny C.1, Leguia E.2, Rapidel Bruno1, Somarriba E.3
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3Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), CATIE 7170, Turrialba 30501, Cartago, Costa Rica

116. The Agritech Water Cluster – Promoting collaboration to manage future water needs of the agriculture sector
Hiscock Kevin, Osborn Timothy, Lovett Andrew, Dorling Stephen, Welters Ruth, Pitt Peter
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117. Climate change mitigation and agricultural development scenarios for the high plains of Eastern Colombia
Hyman Glenn, Loboguerrero Ana Maria, Aracely Castro, Idupulapati Rao, Peters Michael
International Center for Tropical Agriculture, Colombia

118. Contributing to CSA progress through a national multidisciplinary research program on adaptation to climate change
Caquet Thierry1, Brédà Nathalie2, Guehl Jean-Marc3, Amigues Jean-Pierre1, Chalvet-Monfray Karine4, Debaeke Philippe5, Le Gouis Jacques2, Plantard Olivier3, Touzard Jean-Marc3, Soussana Jean-François6
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8INRA, UMR 1300 INRA-Oniris “Biology, Epidemiology and Risk Analysis in animal health-BioEpAR”, Atlanpole, La Chantrerie, CS 40706, F-44307 Nantes Cedex 03, France
119. Could agroforestry be a way to limit soil erosion susceptibility under a temperate climate?
Monnier Yogan, Stokes Alexia
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120. Scientific and policy recommendations for climate smart arable agriculture in Europe: lessons from the past decade
Freibauer Annette1, Don Axel1, Dechow Rene1, Heidkamp Arne1, Prietz Roland1 and GHG-Europe project partners3
1Thünen Institute of Climate-Smart Agriculture, Germany
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121. Adaptation to climate change through land-use change in France and implications for greenhouse gas emissions
Ay Jean-Sauveur3, Chakir Raja3, De Cara Stéphane2
1INRA UMR Cesaer 26, bd Docteur Petitjean, 22079 Dijon Cedex, France
2INRA UMR Economie Publique INRA-AgroParisTech, Avenue Lucien Brétignières, 78850 Thiverval-Grignon, France

122. Mitigating GHG emissions from ruminant livestock systems
Klumpp Katja1, Doreau Michel4, Faverdin Philippe3, Jeuffroy Marie-Hélène4, Bamière Laure3, Pardon Lénaïc1, Soussana Jean-François3, Pellerin Sylvain3
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123. Global assessment of technological innovation for climate change in developing countries: opportunities and challenges
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124. Synergies and trade-offs of adaptation and mitigation on dairy farms
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125. Land management practices as a coping mechanism to frequent and prolonged drought spells by smallholder farms
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126. Sustainable intensification of global maize cropping systems: balancing yield increase and nitrous oxide emissions
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127. Temperature impact on CO$_2$ emissions and nutrients availability in Malagasy soils under different farming practices
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128. The synergies of fertilization on carbon sequestration and food security in China
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129. Adaptation to climate variability: evaluation of adaptation tools for the agricultural sector in Guanacaste, Costa Rica
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130. Efficiently mitigating climate change through improved land management in smallholder agriculture of Malawi and Zambia
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131. Climate-Smart water and nitrogen management strategies for lowland rice
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132. Storing C in agricultural soils: evaluating triple-win climate-smart actions for France
Chenu Claire$^1$, Angers Denis$^2$, Metay Aurélie$^3$, Colenne-David Caroline$^4$, Klumpp Katja$^5$, Bamière Laure$^6$, Pardon Lénaïc$^7$, Pellerin Sylvain$^8$
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133. Innovative cropping systems under GHG emissions constraint: results of a long-term field trial assessment
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134. Contribution of agroforestry to livelihoods and climate change mitigation in Western Kenya
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135. Alternative water management minimizes greenhouse gas emissions from rice systems while maintaining yield
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136. Climate mitigation: trade-offs between agricultural product carbon footprints and land use intensity
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137. Integrated fertiliser microdosing and organic manure to adapt to climate variability and change in Northern Benin
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138. The Global Yield Gap Atlas for targeting sustainable intensification options for smallholders in Sub-Saharan Africa
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139. Impacts of agricultural diversity on self-sufficiency for forage, feeding costs and GHG emissions in dairy systems
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140. Water resources transfers through southern African food trade: resource efficiency and climate adaptation
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141. Municipal solid waste composts as organic inputs in vegetable gardening cropping systems in Mahajanga, Madagascar
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142. Evaluating the impact of rising fertilizer prices on crop yields
Brunelle Thierry, Dumas Patrice, Souty François, Dorin Bruno, Nadaud Franck
143. Agent based model analysis on the impact of agricultural land-use change adaptation in semi-arid Ghana
Badmos Biola K.1,2, Villamor Grace B.3,4, Agodzo Sampson K.5, Odai Samuel N.6
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144. The gathering of Non-Timber Forest Products as adaptation strategy to climate change in the rural community of Niaguis
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145. Optimisation of the nitrogen fertilisation in the context of climate change
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146. Climate change impacts on crops production and adaptive measures from farmers’ perspective in North-East China
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147. Emissions mitigation by sustainable intensification in Brazilian livestock production
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148. Adaptation of tropical cattle breeds to their environment, in the perspective of climatic change
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149. Genetic diversity of Dactylis glomerata in the response to temperature during germination
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150. Globally representative C. arabica variety trial site selection in a changing climate
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151. “ReColAd”: Collaborative network on farm animal adaptation to environmental changes
Zerjal Tatiana1, Laloe Denis1, Mandonnet Nathalie2, Naves Michel1, Collin Anne3, Thevenon Sophie4, Renaudeau David5

L2.4 BREEDING AND PROTECTING CROPS AND LIVESTOCK
152. Crop diversity as an adaptation strategy to climate change in West Africa
Piquet J., Berthouly-Salazar C., Barry M.B., Berthouly-Salazar C., Diallo M.A.T., Deu M., Kané N.A., Leclerc C., Noyer J.L., Pham J.L., Vigouroux Y., Billot C.
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153. Genetic variability and phenotypic characterization of thermotolerance in rainbow trout
Dupont-Nivet Mathilde, Colson V., Crusot M., Labbé L., Rigaudeau D., Prunet P., Quillet E., Leguen I.
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INRA, UMR 1348 PEGASE, F35590 Rennes, France
INRA, UE097 IERP, Infectiologie Expérimentale Rongeurs et Poissons, Jouy en Josas, France

154. NGS for identifying wild-to-cultivated gene flow for African crops adaptation
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155. Impact of pea genetic variability on the control of N₂O reduction by soil-microorganisms-plant systems

156. Using crop-climate models for designing climate-smart breeding strategies
Koehler Ann-Kristin, Ramirez-Villegas Julian, Challinor Andrew
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157. Genetics of tolerance of extra-early Quality Protein Maize inbreds under contrasting environments
Annor Benjamin, Badu-Apraku B., Aken’Ova M.E.
International Institute of Tropical Agriculture, Ibadan, Nigeria
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158. Adaptation of alfalfa ecotypes to climate change
Julien Lionel, Delalande Magalie, Sartre Pascal, Carpon Jean-Marie, Blandineau Claude, Bastianelli Denis, Huguenin Johann
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INRA, UMR-SELMET, Montpellier, France
INRA, UMR AgroEcologie, 78352 Jouy-en-Josas, France

159. Improvement of yield and related characters of temperate maize (Zea mays L.) under three water regimes
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College of Food and Agricultural Sciences, King Saud University, P.O. Box 2454, Riyadh 14451, Saudi Arabia

160. Breeding for sunflower hybrids adapted to climate change: the SUNRISE collaborative and multi-disciplinary project
Debaeke Philippe, Coque M., Muños S., Mangin B., Gouzy J., Kephaliacos C., Piquemal J., Pinochet X., Vincent P., Langlade N.
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161. Climate change in tropical environment: what impact on agricultural pests and diseases? What crop protection strategies?  
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162. Understanding the genetic diversity of Ethiopian oilseed Noug (Guizotia abyssinica) for its improvement and conservation  
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163. Proteomics in the drive for climate smart livestock production  
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164. Bridging landscape genomics and quantitative genetics for a regional adaptation of European grasslands to climate-change  
Sampoux Jean-Paul3, Manel Stéphanie4, Hegarty Matthew J.1,2,3, Dehmer Klaus J.1, Willner Evelyn6 
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4IPK, Genebank Department / Satellite Collections North, 23999 Malchow / Poel, Germany

165. Ecological niche of R. fistulosa in climate change context: what future for lowland rice production in West-Africa?  
Zossou Norlètte, Gouwakinnou Gérard, Idelphonse Sode, Sinisin Brice 
Laboratories of Applied Ecology, Faculty of Agronomics Sciences, University of Abomey-Calavi, Benin

166. Effects of heat stress and sulfur restriction during seed filling on grain characteristics in rapeseed  
Brunel-Muguet Sophie1,2,3, D’Hooghe Philippe1,2,3, Bataille Marie-Paule1,2,3, Larré Colette4, Kim Tae-Hwan1,2,3, Jacques Trouverie1,2,3, Alvie Jean-Christophe1,2,3, Etienne Philippe1,2,3, Dürr Carolyne6, Hélène Gautier6 
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6INRA, UMR 1345, Institute of Research on Horticulture and seeds, F-49045, Beaucouzé, France

167. Selection of families new of rice for their adaptability of lowland in West Africa  
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168. Evaluation of triticale genotypes for food and feed security in Egypt
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169. Improving Bambara groundnut for global food security: MAGIC populations for ideotype development and genomic analysis
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170. Genetics in controlling small ruminant’s internal nematodes infestation in the era of climate change
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171. Climate change impact on incidence of mite (Tetranychus urticae Koch) infesting ladiesfinger in sub-Himalayan India
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L2.5 OVERCOMING BARRIERS: POLICIES AND INSTITUTIONAL ARRANGEMENTS TO SUPPORT CSA

172. Cross-scale policy dynamics and climate smart agriculture
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173. Theory and criteria for improved understanding of Climate Smart Territories (CST)
Jenet Andreas1, Van Etten Jacob2, Sepulveda Claudia1, Martinez-Salinas Alejandra1,3, Villanueva Cristobal1, Sanabria Oscar7, Louman Baastian7, Alpizar Francisco7
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174. Scenario-guided policy development and investment for Climate Smart Agriculture in Cambodia
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4FAO- EPIC, Viale delle Terme di Caracalla, 00153 Rome, Italy

175. Effects of the Jordanian rainfed barley-livestock producer perceptions and values on their adaptation to climate change
Auerbach Anita1, Yigezu Yigezu2, Haddadin Maissa2, El-Shater Tamer2, Akroush Samia2, De Pauw Eddy1, Guendel Sabine1
176. Climate Smart Agriculture in the Northeast: assessing stakeholders’ belief-action gaps and research/extension capacity
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177. Barriers to the adoption and diffusion of CSA technological innovations in Europe
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178. Necessity of clear concepts and convergence of discourse for a climate-smart agriculture (Costa Rica)
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179. A rights-based approach to realizing socially equitable development outcomes from climate smart agriculture
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180. Implications of alternative GHG emission metrics for emission trends and targets
Reisinger Andy

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181. Climate smart agriculture without climate smart spatial planning?
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182. Forestry and agriculture in the climate change governance: Non-UNFCCC venues for enhancing action
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Research Assistant (PhD candidate) at Wageningen University, Trompstraat 166, The Hague, 2518 BP, The Netherlands

183. Barriers to uptake of conservation agriculture in Malawi: multi-level analyses & development planning implications
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184. Policies for climate-smart agriculture: contribution of agroforestry literature
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185. Learning and sharing for action: experiences of Ghana climate change and food security platform
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¹CSIR-Animal Research Institute, Accra, Ghana
²ICRISAT, Bamako, Mali

186. Linking climate change adaptation and mitigation: Implications for Central America
Cuéllar Nelson, Kandel Susan, Gómez Ileana, Cartagena Rafael, Luna Fausto, Diáz Oscar
187. Social learning in support of CSA: getting to outcomes and impact
Forch Wiebke¹, Thornton Philip¹, Schuetz Tonya², Harvey Blane³
¹CCAFS, ILRI, PO Box 30709, Nairobi 00100, Kenya
²Orleansstr. 59, D-81667 Munich, Germany
³Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), IDRC, PO Box 8500, Ottawa, ON K1G 3H9, Canada

188. Policy instruments for Climate Smart Agriculture: toward a specific integrated analytical framework
Le Coq Jean-Francois¹,², Fallot Abigail³,⁴, Bouroncle Claudia⁵
¹CIRAD UMR ART-DEV, 34000 Montpellier, France
²UNA/CINPE, 3000 Heredia, Costa Rica
³CIRAD UPR GREEN, 34000 Montpellier, France
⁴CATIE, Climate Change and Watershed Program, 7170, Turrialba, Costa Rica
⁵Conservation International, Center for Environmental and Peace, 22202, Arlington, VA, USA

189. Building local capacity in agricultural carbon projects in Kenya and Uganda through participatory action research
Shames Seth¹, Heiner Krista¹, Masiga Moses², Recha John³, Kapukha Martha⁴, Ssemala Annet⁵, Wekesa Amos⁶
¹EcoAgriculture Partners, 1100 17th St, NW Suite #600, Washington, DC 20036, USA
²ENR Africa Associates, P.O. Box 72287, Kampala, Uganda
³Environmental Resources Management Center for Sustainable Development [ERMCSID], Utumishi Cooperative House, Mezzanine Floor, Mamlaka Road, Off Nyerere Road, P.O. BOX 1728 – 00100, Nairobi, Kenya
⁴Vi-Agroforestry Regional Office, P.O. Box 457 67 00100 Nairobi, Kenya
⁵Environmental Conservation Trust of Uganda (ECOTRUST), Plot 49 Nakivogo Road, Entebbe, Uganda

190. What does it take to see transformative adaptation? Evidence from sub-Saharan Africa
Bernier Quinn¹, Kristjanson Patti¹, Meinzen-Dick Ruth¹
¹International Food Policy Research Institute, 2033 K Street NW, Washington DC, 20006, USA
²World Agroforestry Centre, United Nations Avenue, P. O. Box 30677, Nairobi, Kenya

191. Is technical information what policy makers need to take action on the climate change adaptation of smallholder farmers?
Donatti Camila ¹, Martínez-Rodríguez M.R.², Harvey Celia A.³, Vignola R.⁴, Rodriguez C.M.³
¹Conservation International, The Betty and Gordon Moore Center for Science and Oceans, 22202, Arlington, VA, USA
²CATIE, Climate Change and Watershed Program, 7170, Turrialba, Costa Rica
³Conservation International, Center for Environmental and Peace, 22202, Arlington, VA, USA

192. Drip irrigation works: drip irrigation kits do not
Davidson Michael
Davidson Consultants, 1169 Boston Street, Altadena, CA 91001, USA

193. Barriers to adaptation and mitigation to climate change in livestock farms of Africa, South America and Europe
Frey Hélène¹, Vayssières Jonathan¹, Messad Samir², Koslowski Franck³, Stienezen Marcia¹, Cardoso Viera Paulo⁴, Poccard René⁵, Blanchard Mélanie⁶, Silvestri Silvia⁷, García de Jalón Silvestre⁷, Lecomte Philippe⁸
¹CIRAD, French Agricultural Research Centre for International Development, Unr SELMET Tropical and Mediterranean Livestock Production Systems, 34398, Montpellier, France
²SRUC, Scotland’s Rural College, Department of Land Economy, Environment & Society Research Group, EH93JG, Edinburgh, Scotland
³WUR, Wageningen University, Livestock Research, 6708 WD, Wageningen, The Netherlands
⁴UFRGS, Universidade Federal do Rio Grande do Sul, Faculdade de Agronomia, Grazing Ecology Research Group, 91540, Porto Alegre, Brazil
⁵ILRI, International Livestock Research Institute, 00100, Nairobi, Kenya
⁶UPM, Technical University of Madrid, Department of Agricultural Economics and Social Sciences, 28040, Madrid, Spain
PARALLEL SESSION L3
TOWARDS CLIMATE-SMART SOLUTIONS

Wednesday, 18 March 2015
8:30–12:30

ORAL PRESENTATIONS

PARALLEL SESSION L3.1 CLIMATE ADAPTATION AND MITIGATION SERVICES

ROOM SULLY 1

KEYNOTE PRESENTATIONS

08:30 AgMIP Contributions to Climate-Smart Agriculture
Rosenzweig Cynthia, Rosemberg Instituto para Spaco Estudios, 2880 Broadway, New York, NY 10025, USA
Rosenzweig, Cynthia
Rosenzweig, Cynthia

09:00 Adaptation and mitigation services for climate smart agriculture
Moors Eddy, Groot Annemarie, Werners Saskia
Alterra-Wageningen UR, Wageningen, the Netherlands

CONTRIBUTED ORAL PRESENTATIONS

11:00 Public-private partnership for climate-smart irrigation initiative in Morocco: the experience of Souss Massa Region
Lahcen Kenny1, Hafidi Brahmi2, El Faskaoui Mhamed3, Rami Abdellatif4, Akhmisle Laila5, Chemaou Hasna6
1IAV Hassan II, CHA / AGROTECH, Agadir, Morocco
2Conseil Regional du Souss Massa Draa, Agadir, Morocco
3Agence du Bassin Hydraulique du Souss Massa Draa, Agadir, Morocco
4Agrotech-SMD; Agadir, Morocco
5Fondation Credit Agricole du Maroc pour le Développement Durable, Rabat, Morocco

11:15 DSS for monitoring agro-meteorological and crop conditions in India using remote sensing for agro-advisory services
Sehgal Vinay, Singh Malti, Verma Rakeshwar, Vashisth Rakeshwar, Vashisth Rakeshwar, Vashisth Rakeshwar
Division of Agricultural Physics, Indian Agricultural Research Institute, New Delhi - 110012, India

11:30 Can citizen science accelerate climate adaptation by poor farming households?
van Etten Jacob1, Alwang Jeffrey2, Arnaud Elizabeth1, Beza Eskender1, Calderer Luis1, Crichton Rhiannon1, Eitzinger Anton3, van Duijvenblik Kees4, Fadda Carlo5, Fantahun Basazen6, van de Gevel Jesse7, Gotor Elisabetta8, Kassahun Mengistu Dejene9, Kaushik S.S.10, Kidane Yosef G.11, Mathur Prem12, Mercado Leida13, Mondal Asha11, P. M. Enrica11, Richter Susan1, Rosas Juan Carlos1, Singh R.K.13, Solanki I.S.14, Steinke Jonathan1, Van den Bergh Inge22, Zimmerer Karl19
1Bioversity International, Costa Rica Office, c/o CATIE 7170, Turrialba, Costa Rica
2Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA
3Bioversity International, France Office, 34397 Montpellier Cedex 5, France
4Wageningen University and Research Centre, Wageningen, the Netherlands
5Decision and Policy Analysis, CIAT – International Center for Tropical Agriculture, Cali, Colombia
6Lund University, SE-221 00 Lund, Sweden
7Bioversity International, Sub-Saharan Africa Office, Nairobi, Kenya
8Ethiopian Biodiversity Institute (EBI), Addis Ababa, Ethiopia
11:45 An international intercomparison & benchmarking of crop and pasture models simulating GHG emissions and C sequestration

Ehrhardt Fiona1, Soussana Jean-François2, Grace Peter3, Recous Sylvie1, Snow Vala, Bellocci Gianni4, Beauvais Josef6, Easter Mark7, Liebig Mark8, Smith Pete1, Celso Aita8, Bhatia Arti21, Brilli Lorenzo12, Conant Rich7, Deligios Paola13, Doltra Jordi14, Farina Roberta15, Fitton Nuala9, Grant Brian16, Harrison Matthew17, Kirschbaum Miko18, Klumpp Katja5, Léonard Joël19, Lieffering Mark6, Martin Raphael6, Massad Raia Sylvia20, Meier Elizabeth21, Merbold Lutz22, Moore Andrew23, Mula Laura23, Newton Paul21, Pattey Elizabeth16, Rees Bob23, Sharp Joanna24, Shcherbak Iurii26, Smith Ward26, Topp Kairyst23, Wu Lianhai25, Zhang Wen26

1INRA, Paris, France
2INRA, UMR FARE, Reims, France
3AgResearch, Lincoln Research Centre, Christchurch, New Zealand
4INRA, Grassland Ecosystem Research (UR874), Clermont Ferrand, France
5AgResearch Grasslands, Palmerston North, New Zealand
6NREL, Colorado State University, Fort Collins, USA
7USDA Agricultural Research Service, Mandan, USA
8Institute of Biological and Environmental Sciences, University of Aberdeen, Scotland, United Kingdom
9Department of Dryland Crop and Horticulture Science, Mekelle University, Mekelle, Tigray, Ethiopia
10Krishi Vigyan Kendra, Satna - 485331 (M.P.), India
11Action for Social Advancement, Bhopal, Madhya Pradesh, India
12Scuola Superiore S. Anna, Piazza Martiri Della Libertà, 33, 56127 Pisa, Italy
13Zamorano Pan-American Agricultural School, Honduras
14NEFORD, Vishnupuri, Aliganj, Lucknow, India
15Institute of Biological and Environmental Sciences, University of Aberdeen, Scotland, United Kingdom
16Academia Italiana di Scienze, Napoli, Italy
17Humboldt-Universität, 10099 Berlin, Germany
18Department of Geography, Penn State University, University Park, Pennsylvania, USA
19Bioversity International, Via dei Tre Denari 472/a, Maccarese 00057, Italy
20Bioversity International, Asia, Pacific and Oceania Office, New Delhi, India
21Catie - Tropical Agricultural Research and Higher Education Center, 02100, Turrialba, Costa Rica
22Humboldt-Universität, 10099 Berlin, Germany
23INRA, Grassland Ecosystem Research (UR874), Clermont Ferrand, France
24INRA, AgroParisTech UMR EGC, Thiverval-Grignon, France
25INRA AgroParisTech UMR EGC, Thiverval-Grignon, France
26INRA, UPR 1158 AgroImpact, Laon, France
27INRA AgroParisTech UMR EGC, Thiverval-Grignon, France
28Swiss Federal Institute of Technology ETH Zurich, Zurich, Switzerland
29SRUC Edinburgh Campus, Scotland, United Kingdom
30The New Zealand Institute for Plant & Food Research, New Zealand
31University of Florence, DISPAA, Florence, Italy
32Desertification Research Centre, University of Sassari, Italy
33Cantabria Agricultural Research and Training Centre, Muredas, Spain
34ARC-RPS, Research Centre for the Soil-Plant System, Roma, Italy
35Agriculture and Agri-Food Canada, Ottawa, Canada
36Tasmanian institute of Agriculture, Burnie, Australia
37Landcare Research, Palmerston North, New Zealand
38Department of Sustainable Soil Science and Grassland System, Rothamsted Research, United Kingdom
39CSIRO, Australia
40Swiss Federal Institute of Technology ETH Zurich, Zurich, Switzerland
41University of Florence, DISPAA, Florence, Italy
42Desertification Research Centre, University of Sassari, Italy
43Cantabria Agricultural Research and Training Centre, Muredas, Spain
44ARC-RPS, Research Centre for the Soil-Plant System, Roma, Italy
45Agriculture and Agri-Food Canada, Ottawa, Canada
46Tasmanian institute of Agriculture, Burnie, Australia
47Landcare Research, Palmerston North, New Zealand
48Department of Sustainable Soil Science and Grassland System, Rothamsted Research, United Kingdom
49Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China

PARALLEL SESSION L3.2
CLIMATE-SMART CROPPING SYSTEMS

ROOM SULLY 2

KEYNOTE PRESENTATIONS

08:30 Climate Smart Agriculture – adaptation or transformation

Obersteiner Michael1, Leclère David2, Havlík Petr2, Fuss Sabine3, Schmid Erwin3, Mosnier Aline4, Walsh Brian2, Valin Hugo2, Herrero Mario3, Khabarov Nikolai3
09:00 Designing and assessing climate-smart cropping systems in temperate and tropical agriculture

Debaeke Philippe¹, Pellerin Sylvain², Scopel Eric³
¹INRA, UMR AGIR, 31326 Castanet-Tolosan, France
²INRA, UMR ISPA, 33883 Villenave d’Ornon, France
³CIRAD, UR AIDA, 34398 Montpellier, France

CONTRIBUTED ORAL PRESENTATIONS

11:00 Phosphorus use efficiency in symbiotic N₂ fixation for coupling bio-geochemical cycles in agrosystems with legumes

Drevon Jean-Jacques¹, Amenc Laurie¹, Bargaz Adnane², Becquer Thierry¹, Blavet Didier⁴, Gérard Frédéric², Domergue Odile³, Lazali Mohamed⁴, ZamanAllah Mainassara⁴
¹INRA Ecologie Fonctionnelle & Biogéochimie des Sols & Agroécosystèmes, 1 Place Viala, F34060, Montpellier, France
²Swedish University of Agricultural Sciences, Department of Biosystems and Technology, PO Box 103, SE-230 53 Alnarp, Sweden
³Laboratoire des Symbioses Tropicales et Méditerranéennes, Campus International de Baillarguet, 34398 Montpellier Cedex 5, France
⁴Université de Khemis Miliana, Route Theniet El Had, Soufay 44225 Ain Defla, Algeria

11:15 Conservation agriculture and agroecology practices to mitigate climatic variations in medium altitude in Madagascar

Penot Eric², Fèvere Valentin³, Flodrops Patricia³, Razafiharatra Hanitrinaina Mamy³
²CIRAD UMR innovation, DP SPAD, DR CIRAD, BP 853, Anpandrianomby, 101 Antananarivo, Madagascar
³CIRAD, UMR Eco&Sols, ICRAF United Nations Avenue POBOX 30677, Nairobi Kenya

PARALLEL SESSION L3.3

CLIMATE-SMART LIVESTOCK

ROOM SULLY 3

KEYNOTE PRESENTATIONS

08:30 Climate-smart livestock systems: lessons and future research

Herrero Mario¹, Thornton Philip K.², van Wijk Mark², Rigolot Cyrille³, Havlik Petr³, Henderson Benjamin³, Ash Andrew³, Crimp Steven³, Howden Stuart Mark³
¹Commonwealth Scientific and Industrial Research Organisation, Agriculture Flagship, Australia
²CGIAR Research Programme on Climate Change, Agriculture and Food Security, ILRI, Nairobi, Kenya
³International Livestock Research Institute, Nairobi, Kenya

11:30 Agronomic and environmental benefits of climate-smart farming practices modeled for rice-based system in India

Kwon Hyoung, de Pinto Alessandro, Haruna Akiko
Environment and Production Technology Division, International Food Policy Research Institute, 2033 K Street, NW, 20006-1002 Washington DC, USA

11:45 Smallholders’ coffee and cocoa agroforestry systems; examples of climate-smart agriculture

Vaast Philippe¹, Harmand Jean-Michel², Somarriba Eduardo³
¹CIRAD, UMR Eco&Sols, ICRAF United Nations Avenue POBOX 30677, Nairobi Kenya
²CIRAD, UMR Eco&Sols, 2 Place Viala (Bat. 12), 34060 Montpellier cedex 2, France
³CATIE, 7170, Cartago, Turrialba 30501, Costa Rica
09:00 Livestock and climate change: combining mitigation and adaptation options and projecting sustainable futures
Soussana Jean-François1 and the EC FP7 ‘AnimalChange’ consortium (see www.animalchange.eu)
1INRA, Paris, France

CONTRIBUTED ORAL PRESENTATIONS

11:00 Differential climate change impacts on crop and grasslands and the relative livestock production systems competitiveness
Havlík Petr1, Leclere David1, Valin Hugo1, Herrera Mario1, Schmid Erwin1, Obersteiner Michael1
1International Institute for Applied Systems Analysis, Schlossplatz 1, A-2361 Laxenburg, Austria
2Commonwealth Scientific and Industrial Research Organisation 306 Carmody Road, St Lucia, 4067 QLD, Australia
3University of Natural Resources and Life Sciences, Feistmantelstraße 4, A-1180 Vienna, Austria

11:15 Efficiency gains for enteric methane mitigation and productivity: contribution to CSA and investment opportunities.
Gerber Pierre1, Opio Carolyn1, Mottet Anne1, Steinfeld Henning1, Hatton Victoria2, Clark Harry2
1Food and Agriculture Organization of the United Nations, Rome, Italy
2New Zealand Agricultural Greenhouse Gas Research Centre, Palmerston North, New Zealand

11:30 Variations in egg incubation temperature enable chicken acclimation through long-lasting changes in energy metabolism
Loyau Thomas1, Métaayer-Coustard Sonia1, Berri Cécile1, Mignon-Grausteau Sandrine1, Hennesquet-Antier Christelle1, Praud Christophe1, Duclos Michel1, Tesseraud Sophie1, Coustham Vincent2, Nyuiazi Dzidzo1,3, David Sarah-Anne1, Everaert Nadia3,4, Siegel Paul B.5, Yalçin Servet6, Yahav Shlomo7, Collin Anne1
1INRA, UR83 Recherches Avicoles, F-37380, Nouzilly, France
2Université de Bourgogne, Institut toulousain de sciences de l’alimentation et de l’environnement, F-38400, Saint Martin de Vincennes, France
3University of Liège, Gembloux Agro-Bio Tech, Animal Science Unit, B-5030 Gembloux, Belgium
4Virginia Polytechnic Institute and State University, Department of Animal and Poultry Sciences, Blacksburg, Virginia 24061-0306, USA
5Ege University, Faculty of Agriculture, Department of Animal Science, 35100 Izmir, Turkey
6Institute of Animal Science, The Volcani Center, Bet Dagan P.O. Box 6, 50250, Israel
7Institute of Animal Science, The Volcani Center, Bet Dagan P.O. Box 6, 50250, Israel

11:45 Impact of feeding strategies on GHG emissions, income over feed cost and economic efficiency on milk production
1Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), 30501 Turrialba, Costa Rica
2Universidad de Costa Rica, Centro de Investigación en Economía Agrícola y Desarrollo Agroempresarial (CIEDA) 141-2400 Costa Rica
3University of Wisconsin-Madison, USA
4Cooperativa Dos Pinos; 179-4060 Alajuela, Costa Rica
5U.S. Department of Agriculture, 1400 Independence Ave., S.W.; Washington, DC 20250 USA

PARALLEL SESSION L3.4
CLIMATE-SMART LANDSCAPES, WATERSHEDS AND TERRITORIES

ROOM RONDELET

KEYNOTE PRESENTATIONS

08:30 Climate Smart Territories; what are they and how do we evaluate progress towards this goal?
Beer John1, Louman Bastiaan2, Mercado Leida2, Scherr Sara2, Van Etten Jacob3
1CATIE, Costa Rica
2EcoAgriculture Partners, USA
3Bioversity International

09:00 Towards climate smart landscapes and watersheds
Oswald-Spring Úrsula
CRIM-UNAM, Mexico

CONTRIBUTED ORAL PRESENTATIONS

11:00 Prototyping climate-smart agricultural landscapes: a generic modelling framework and application in a tropical island
Blazy Jean-Marc1, Chopin Pierre1, Doré Thierry3,4, Guindé Loïc1, Paul Jacky1, Sierra Jorge1
1KU Leuven, Department of Biosystems, B-3001 Leuven, Belgium
2University of Liège, Gembloux Agro-Bio Tech, Animal Science Unit, B-5030 Gembloux, Belgium
3Virginia Polytechnic Institute and State University, Department of Animal and Poultry Sciences, Blacksburg, Virginia 24061-0306, USA
4Ege University, Faculty of Agriculture, Department of Animal Science, 35100 Izmir, Turkey
11:15 Managing trade-offs in climate-smart landscapes: a global analysis at multiple levels
Locatelli Bruno¹, Pramova Emilia², Chazarin Florie³, Fedele Giacomo³
¹CIRAD-CIFOR, Montpellier 34098, France
²CIFOR, Av La Molina 1895, Lima 15024, Peru
³CIFOR, Jalan Cifor, Bogor 16000, Indonesia

11:30 Climate-smart landscapes: multifunctionality in practice
Minang Peter A., Van Noordwijk Meine, Duguma Lalisa A.
ICRAF, UN Avenue, Gigiri, P O Box 30677-00100, Nairobi, Kenya

11:45 A platform for landscape ecoefficiency monitoring and jurisdictional certification in the Amazon region
Ferreira Joice¹, Poccard-Chapuis René², Laurent François³, Plassin Sophie⁴, Thalês Marcelo⁵, Moura Fabricia⁶, Pimentel Gustavo⁵, Piketty Marie-Gabrielle⁶
¹Embrapa Amazonia Oriental, Belém - PA, 66095-100, Brazil
²UMR SELMET – CIRAD, Paragominas - PA, 68626-140, Brazil
³Université du Maine, Le Mans 72085, France
⁴Museu Paraense Emilio Goeldi, Belém - PA, 66095-100, Brazil
⁵Embrapa Amazonia Oriental, Belém - PA 66095-100, Brazil
⁶UR GREEN – CIRAD, Montpellier 34000, France

Hedger Merylyn, Nkhooda Smita, Norman Marigold
Overseas Development Institute, London, United Kingdom

09:00 “What Can Fund Climate Smart Agriculture?”
Searchinger Timothy D.
Princeton University, USA

CONTRIBUTED ORAL PRESENTATIONS

11:00 How to deal with trade-offs? – A manual for policymakers
Ignaciuk Ada
OECD, 2 rue Andre Pascal, 75016 Paris, France

11:15 Exploring strategic management of agricultural systems to link mitigation and adaptation to climate change
Iglesias Ana, Sanchez Berta
Department of Agricultural Economics and Social Sciences, Universidad Politécnica de Madrid, Madrid, Spain

11:30 Nationally appropriate mitigation actions (NAMAs) for upscaling climate-smart agriculture practices
Avagyan Armine, Karttunen Kaisa, De Vit Caroline, Rioux Janie
Food and Agriculture Organisation of the United Nations (FAO), Viale delle Terme di Caracalla, 00153 Rome, Italy

11:45 A business approach to poverty reduction: weather index based insurance and climate smart agriculture
Greatrex Helen¹, Hansen James¹, Hellin Jon², Osgood Daniel Edward³
¹International Research Institute for Climate and Society (IRI), Columbia University, Lamont Doherty Earth, 61 Route 9W, Palisades, New York 10964-1000, USA
²International Maize and Wheat Improvement Center (CIMMYT), Apdo. Postal 6-641, Mexico, D.F. 06600, Mexico

PARALLEL SESSION L3.5
INVESTMENT OPPORTUNITIES AND FUNDING INSTRUMENTS

ROOM BARTHEZ

KEYNOTE PRESENTATIONS

08:30 Delivering Climate Smart Agriculture: prospects from climate finance
POSTER SESSION 3

Wednesday, 18 March 2015
9:30–11:00

EXHIBITION HALL, LEVEL 0

L3.1 Climate adaptation and mitigation services

1. Scaling up climate information services within climate smart agriculture
   Jay Alexa1, Tall Arame2
   1International Research Institute for Climate and Society, Earth Institute, Columbia University, 61 Route 9W, Palisades, NY 10964, USA
   2International Food Policy Research Institute, 2033 K Street, NW Washington, DC 20006-1002, USA

2. Upscaling climate smart agriculture for food security in the Sahel region
   Bilgo Ablasse1, Subsol Sébastien2, Botoni Yaro Edwige2, Sarr Benoit2
   1Centre Régional AGRHYMET, BP 11011 Niamey, Niger
   2Secrétariat Exécutif du Comité permanent Inter-Etats de Lutte contre la Sécheresse au Sahel (CILSS), 03 BP 7049, Ouagadougou, Burkina Faso

3. Index-based insurance for income stabilization for smallholder farms in Central Asia
   Bobojonov Ihtiyor1, Aw-Hassan Aden2, Biradar Chandrashekar2, Nurbekov Aziz3
   1Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Germany
   2ICARDA, Abdoun Al-Shamalie, Khalid Abu Daiboub Str., Amman 11195, Jordan
   3ICARD, Tashkent, Uzbekistan

4. Preliminary results obtained in the CLIF Project on climate change impact on fungal pathosystems
   Huber Laurent1, Bancal Marie-Odile2, Zurfluh Olivier2, Huard Frédéric2, Launay Marie2, Andrivon Didier3, Androdias Annabelle1, Corbierre Roselyne3, Mariette Nicolas3, Belaid Yosra4, de Vallavieille-Pope Claude4
   1INRA, UMR 1091 EGC, F-35653 Le Rheu, France
   2INRA, US 1116 AGROCLIM, F-84914 Avignon, France
   3INRA, UMR 1349 IGEPP, F-35653 Le Rheu, France
   4INRA, UR 1290 Biager, F-78850 Thiverval-Grignon, France

5. Modelling greenhouse gas emission under extensive livestock production systems in Kalahari South Africa
   Tesfamariam Eyob H1, Hassen Abubeker2, Booyse Maruzaan3, Hutchings Nicholas J3, Stienezen Marcia4
   1Department of Plant Production and Soil Science, University of Pretoria, South Africa
   2Department of Animal and Wild Life Sciences, University of Pretoria, South Africa
   3Department of Agroecology - Climate and Water, Aarhus University, Denmark
   4 Wageningen UR Livestock Research, Wageningen, the Netherlands

6. Institutionalizing crop yield forecasting for early warning in Nepal
   Gyawali Dhiraj Raj, Kanel Damodar, Burja Kurstin Vancé, Arun Khatri-Chhetri
   1United Nations World Food Programme, Nepal
   2Food Security Monitoring System (NeK SAP), Vulnerability Analysis and Mapping (VAM), Lalitpur, Nepal
   3CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS), International Water Management Institute, New Delhi, India

7. Analysis of extreme climate events and their impact on maize and wheat
   Diriba Tadele Akeba, Debuscho Legesse Kassa, Botai Joel, Hassen Abubeker
   1University of Pretoria, Department of Statistics, Private Bag X20, Hatfield, 0028 Pretoria, South Africa.
   2University of Pretoria, Department of Geography, Geoinformatics and Meteorology, 0028 Pretoria, South Africa
   3University of Pretoria, Department of Animal and Wildlife Sciences, 0028 Pretoria, South Africa

8. Farmer rice field adaptation technology for rice-wheat cropping system in Punjab, Pakistan under future changing climate
   Ahmad Ashfaq, Wajid Aftab, Khaliq Tasneem, Habib-ur-Rehman M, Rasul Fahd, Saeed Umer, Hussain Jamshad, Hoogenboom Gerrit
   1Agro-climatology Lab., Department of Agronomy, University of Agriculture, Faisalabad, 38040, Pakistan
   2College of Agriculture, Human, and Natural Resources Sciences, Washington State University, Prosser, WA 99350-8694, USA
9. Are autonomous adaptation help to improve resilience of farmers? Insights from local scale analysis from South India

Dhanya Praveen, Ramachandran Andimuthu, Palanivelu Kandasamy
Centre for Climate Change and Adaptation Research, College of Engineering, Guindy Campus, Anna University, Sardar Patel Road, Chennai – 600 025, India

10. Developing web services to foster the adaptation of agriculture, forestry and water management to climate change

Bréda Nathalie, Caquet Thierry, Gascuel-Odoux Chantal, Soussana Jean-François
1INRA, UMR 1137 INRA-Université de Lorraine “Forest Ecology and Ecophysiology-EEF”, Route de la Forêt d’Amance, F-54280 Champenoux, France
2INRA, UMR 1275 Ecology of Forests, Grasslands and Freshwater Systems Division, Route de la Forêt d’Amance, F-54280 Champenoux, France
3INRA, UMR 1069 INRA-Agrocampus Ouest “Soil, Agro and hydroSystem-SAS”, 65 rue de Saint-Brieuc, F-35042 Rennes Cedex, France
4INRA, Collège de Direction, 147 rue de l’Université, F-75338 Paris Cedex 07, France

11. Evaluation of GHGs, C stocks and yields from European cropping and pasture systems under two climate change scenarios

Carozzi Marco, Massad Raia Silvia, Klumpp Katja, Eza Ulrich, Shtiliyanova Anastasiya, Drouet Jean-Louis, Martin Raphaël
1INRA, AgroParisTech, UMR 1091 Environnement et Grandes Cultures, 78850 Thiverval-Grignon, France
2INRA, UR 0874 UREP Unité de Recherche sur l’Ecosystème Prairial, 63100 Clermont-Ferrand, France

12. Food security and climate change: a vulnerability analysis of agricultural livelihoods in Central America

Imbach Pablo, Bouroncle Claudia, Läderach Peter, Medellin Claudia, Beatriz Rodriguez, Armando Martinez
1COSTEL-CNRS, UMR 6554 LETG, Université Rennes 2, Place du Recteur Henri Le Moal, 35043 Rennes Cedex, France
2UVV-INRA, UE1117, UMT Vinitera², 42 rue Georges Morel, 49071 Beaucouzé, France
3GEOMER-CNRS, UMR 6554 LETG, Université de Bretagne Occidentale, 29280 Plouzané, France

13. Impact of climate change on household income and poverty levels: empirical evidence from South Asia

Rahut Dil Bahadur, Aryan Jeetendra, Ali Akhter, Behera Bhagirath
1Program Manager, Socioeconomics Program, International Maize and Wheat Improvement Center (CIMMYT), 10Km. 45, Carretera Mex-Veracruz, El Batan, Mexico
2Agricultural Economist, Socioeconomics Program, CIMMYT, New Delhi, India
3Agricultural Economist, Socioeconomics Program, CIMMYT, Islamabad, Pakistan
4Department of Humanities and Social Sciences, Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India

14. Irrigated rice practices changes in the Senegal River Valley according to climate and constraints evolutions

Baldé Alpha Bocar, Muller Bertrand, Van Oort Pepijn, Ndiaye Ousmane, Stuer Sabine, Sow Abdoulaye, Diack Salif, Ndour Maimouna, Dingkuhn Michael
1Africa Rice Center (AfricaRice), Saint-Louis, Senegal
2Centre de Coopération Internationale en Recherche Agronomique pour le développement (CIRAD)/AfricaRice, Saint-Louis, Senegal
3AfricaRice/Wageningen University, Wageningen, The Netherlands
4Agence Nationale de l’Aviation Civile et de la Météorologie (ANACIM), Dakar, Senegal
5Hohenheim University, Stuttgart, Germany
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15. Towards high resolution adaptation strategies to climate variability and change

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16. AgMIP’s transdisciplinary approach to regional integrated assessment of climate impact, vulnerability & adaptation

Antle John, Valdivia Roberto, Boote Ken, Hatfield Jerry, Janssen Sander, Jones Jim, Porter Cheryl, Rosenzweig Cynthia, Ruane Alex, Thorburn Peter
1Oregon State University, USA
17. Representative agricultural pathways for integrated assessment of climate change, vulnerability & adaptation impacts
Valdivia Roberto O. 1, Antle John M. 2, Rosenzweig Cynthia 3, Ruane Alex 3, Vervoort Joost 3, Ashfaq Muhammad 4, Hattie Ibrahima 5, Homman-Kee Tui Sabine 6, Mulwa Richard 7, Nhemachena Charles 8, Ponnsamy Paramasivam 9, Herath Dumindu 10, Singh Harbir 11
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12 International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), 00623 Nairobi, Kenya

18. Trends in dry spell and extreme rainfall events and significance for alternative and sustainable agriculture in Malawi

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19. Analysing the quality and reconstructing daily weather data for crop growth simulation models
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20. Gender assessment of climate change adaptation strategies in south-western Nigeria
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21. Sensitivity analysis for climate change impacts, adaptation and mitigation projection with pasture models
Bellocci Gianni 1, Ehrhardt Fion 2, Soussana Jean-François 2, Conant Rich 3, Fitton Nuala 4, Harrison Matthew 5, Lieffering Mark 5, Minet Julien 6, Martin Raphaël 7, Moore Andrew 8, Myrgiots Vasileios 9, Rolinski Susanne 10, Ruget Françoise 11, Snow Val 12, Wang Hong 13, Wu Lianhai 14
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3 NREL, Colorado State University, Fort Collins, USA
4 Institute of Biological and Environmental Sciences, University of Aberdeen, Scotland, United Kingdom
22. Biochar: an environment friendly approach to mitigate climate change
Arshad Muhammad Naveed, Ahmad Ashfaq, Wajid Aftab, Rasul Fahd, Khaliq Tasneem, Fatima Hafiza Naheed
1Agro-Climatology Laboratory, Department of Agronomy, University of Agriculture, Faisalabad, Pakistan
2Department of Life Sciences, Islamia University, Bahawalpur, Pakistan

23. Response of fine rice cultivars to various transplanting dates under climate change scenario of Pakistan
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2Department of Life Sciences, Islamia University, Bahawalpur, Pakistan

24. Climate smart services: case studies in Senegal, Burkina, and Colombia
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2CIAT, DAPA, km17 Cali, Colombie
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25. Climate-smart cropping patterns on exposed coasts and near-coastal uplands, central Vietnam
Phan Huong Lien, Le Dinh Hoa, Dam Viet Bac, Simelton Elisabeth
1Farmers Association, Ha Tinh, Vietnam
2World Agroforestry Centre (ICRAF), Ha Noi, Vietnam

26. Adoption of climatic challenges mitigating strategies at farm level: empirical evidence from South Asia
Ali Akhter, Rahut Dila Bahadur, Behera Bhagirath
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3Department of Humanities and Social Sciences, Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India

27. Can ecosystem-based adaptation help smallholder farmers adapt to climate change?
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2CATIE, Apdo 7170, Turrialba, Costa Rica
3CIRAD, Avenue Agropolis 34398, Montpellier Cedex 5, France

28. ITK Vigne, a decision-support tool to adapt wine production to climate change, with or without irrigation
Stoop Philippe, Bsaibes Aline, Gelly Marc, Ojeda Hernan, Lebon Eric, Jourdan Christophe, Trambouze William, Laget Frederic, Rutensch Gabriell, Debiolles Loic
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6Association Climatique de l’Hérault, 34000 Montpellier, France
7Vignobles Foncalieu, 11290 Arzens, France
8Netafim France, 13120 Gardanne, France

29. QUICKScan: A decision support tool for a participatory exploration of land use mitigation and adaptation options
30. Gender specific perceptions and adoption of the climate-smart Push-pull technology in eastern Africa
Khan Zeyaur R.1, Murage A. W.1, Pittchar Jimmy O.1, Midega Charles A. O.1, Ooko Charles O.1, Pickett John A.2
1International Centre of Insect Physiology and Ecology (ICIPE), P.O. Box 30, 30772-00100 Nairobi, Kenya
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31. Critical issues for the design and operation of business models for technological CSA innovations
Long Thomas B., Blok Vincent
Management Studies Group, Leeuwenborch, Hollandseweg 1, Wageningen UR, Wageningen, 6706 KN, The Netherlands

32. Building resilience to climate change: the role of robust methods
Dittrich Ruth, Wreford Anita, Moran Dominic
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33. Co-design of scenarios and adaptation strategies to climate change in the highlands of Madagascar
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34. Climate change adaptation in the dry zone of Honduras: learning by doing
Sanders Arie, Tenorio Erika.
Zamorano University, Apdo. 93 Tegucigalpa, Honduras

35. From plot to regional scale, spatial modelling of crop systems using interaction graphs

36. Climate Smart Agriculture, mitigation and adaptation, agro biodiversity conservation in Georgia
Nadiradze Kakha1, Phirosmanashvili Nana2
1Association for Farmers Rights Defense, AFRD President, Country Representative and National Coordinator for South Caucasus Countries of the Coalition for Sustained Excellence in Food and Health Protection, Georgia
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37. Sensor-aided conservation agriculture: climate smart nitrogen and weed management in maize-wheat system
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38. Climate Change from the lens of a smallholders and their landscapes
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39. Assessing the vulnerability of sorghum to changing climate conditions in West Africa semi-arid tropics
Akinseye Folorunso M.1,2, Diancoumba Madina3, Adam Myriam2, Traore Pierre C. Sibiry4, Agele Samuel O.2, Whitbread Anthony M.5
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40. Network of experiments to phenotype contrasted sorghum and to model its adaptability in West African environments

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41. e-Agro Climate Initiatives - Ghana

Yeboah Obeng Albert, Odoi Alice, Amaoteng Prince

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42. Climate-smart, site-specific agriculture: reducing uncertainty on when, where and how to grow rice in Colombia

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43. Microclimate drives pests in complex agricultural landscapes: how to monitor and analyse fine-scale climate data?

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44. Enhancing women farmers’ access to climate smart technologies through participatory approach in rice farming households

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2Socioeconomist-Gender Specialist, Consultant, International Rice Research Institute- CCAFS SEA

45. Assessment of community based biodiversity management for adaptation to climate change in Kaski district, Nepal

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46. Degradation of forest and agricultural resources and adaptation strategies in Middle Casamance (Senegal)

Toure Labaly, Sy Boubou Aldiouma, Cormier Salem Marie Christine

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47. Climate change and adaptation strategies of households as threats to food security in rural Southwest Nigeria

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48. Analysis of the adaptive capacity of rural farm households to climate change risks In Nigeria

Thompson Olaniran Anthony, Alese. Folakemi B.

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L3.2 Climate-smart cropping systems

49. Climate smart village model for climate change adaptation and mitigation:
implications for smallholder farmers in Ghana
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³CCAFS, ICRISAT Bamako, Mali

50. Agro Climate Calendar, a simple methodology to identify local adaptation for farm objectives
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51. Drip system and climate change adaptation
Cheikh Mohamed Vadhel
Cheikhna A. Aïdra, Associations ATED-APEM-GP, Ilôt B Tebraq Zeina, BP 5275, Nouakchott, Mauritania

52. Comparison of methodological approaches for durum wheat in-field monitoring and early-yield prediction
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53. Increasing vegetable research investments in South Africa for climate-smart vegetable research
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54. Improving farmers’ innovation capacity for climate-smart forest and agricultural practices in Bangladesh
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²University of Guelph, Ontario, Canada

55. Finding niches for neglected crops in the semi-arid to better manage climate risk under smallholder farm conditions
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56. Reducing the use of nitrogen fertilizers: how and what potential impact on N2O emissions from French agriculture?
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57. Climate Smart agriculture: farmers’ perception and practices in Nepal
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Department of Agronomy, Institute of Agriculture and Animal Science (IAAS), Tribhuvan University, Rampur, Chitwan, Nepal

58. The FACCE-ERA-NET+ project Climate–CAFÉ: climate change adaptability of cropping and farming systems for Europe
Justes Eric¹, Rossing Walter A.H.², Sachinger Johann³, Carlsson Georg⁴, Charles Raphaël⁵, Constantin Julie⁶, Gomez-Machpherson Helena⁷, Hanegraaf Catherine⁸, Hauggaard-Nielsen Koen⁹, Hansen Erik S.¹⁰, Koopmans Chris J.¹¹, Mary Bruno¹², Palmberg Cecilia¹³, Raynal Hélène¹⁴, Reckling Moritz¹⁵, Rees Robert M.¹¹, Scholberg Johannes M.S.¹¹, Six Johan¹², Stoddard Fred¹³, Topp Kairsty¹³, Watson Christine A.¹³, Willame Magali¹³, Zander Peter¹, Trittonell Pablo²
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²Wageningen University, Farming Systems Ecology, 6700 AK Wageningen, the Netherlands
59. Climate smart agriculture: Towards a concerted definition of national priorities in Mali

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60. New crops for a new climate: understanding farmers’ behavior towards sesame and cowpea crops in Sahel

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61. Climate change and rainfed agriculture: how to extend the campaign and improve the Burkinabe agricultural production?

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62. Evolution of the rainy season and peasant adaptation in the Northeast of Benin (West Africa)

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63. Fitting sweet potato into low input cropping systems within contrasting agroecologies of KwaZulu-Natal, South Africa

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64. Study of sequestration of soil organic carbon under conservation agriculture and choice of simulation model

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65. Integrated approaches to adaptation to climate change and food security in Maradi (Southern Niger)

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66. Can woody plants management provide soil amendments to enhance agroecosystem productivity and resilience in West Africa?

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67. Dynamic capacity of the adaptability of steppe sheep breeding systems in response to the challenge of climate change

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68. Do practices of Sahelian smallholder farmers impact native agroforestry shrubs functioning?

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69. STICS: a generic and robust soil-crop model for modelling agrosystems response in various climatic conditions

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70. A model assessment of the adaptation of Mediterranean agroforestry systems to climate change
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71. The effect of organic amendments and water pulses on GHG emissions from rice production systems using δ13C isotope
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72. Nurse plant effect on mycorrhizal soil infectivity and soil fertility restoration in Madagascar upland rice farming
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73. Extension of oil palm in altitude under global change in North Sumatra: ecophysiological responses and yield
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74. Impact of climate on major cereal crops production in Sokoto State, Nigeria
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75. Resource-conserving agriculture for restoring soil productivity and climate change mitigation in northern Ethiopia
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76. Millet (Pennisetum glaucum)-acacia association for sustainable improvements in agricultural productivity in Niger
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77. Collection of farming address climate changes in the department Kaolack / Senegal
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78. Mitigating methane emission in rice ecosystem by drip irrigation

79. Eating more grain legumes and less meat promotes climate smart cropping systems

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80. Acacia catechu trees in rice fields: a climate smart traditional agricultural system of Northern Bangladesh

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81. Soil carbon sequestration under traditional management of smallholder's oil palm plantations in Sudano-Guinean context

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82. Impact of climatic variables on rice yield in Bangladesh: a spatio-temporal analysis

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88. Building climate smart pastoralism in the Sahel: ways forward

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86. Cattle ranching in the Amazon: quantifying synergies between intensification, mitigation and profitability
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86. Potential multi-dimensional impacts and tradeoffs of improved livestock feeding scenarios in Babati, Tanzania
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87. Towards climate smart dairy cattle in Rwanda: mapping feed resource potential under climate and land use scenarios
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88. Protein supplementation improves saline water utilization in lambs
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89. An optimal live-weight gain in winter improves growing performance and reduces CH4 in tropical beef cattle systems
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92. Climate change, livestock productivity and poverty: empirical evidence from south Asian countries
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93. Solutions for greenhouse gases mitigation in ruminant farming: how to favor their adoption?
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94. Perception of climate change and adaptation of herd conduct mode in Burkina Faso during rainy season
95. Mini-livestock ranching – raising climate-smart insects for nutrition and livelihoods

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96. Evaluating animal mobility in relation to climate change mitigation: Combining models to face methodological challenges

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97. Substitution of maize silage with barley silage in dairy cow diet as mitigation strategy: effect on milk quality

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98. Towards climate smart livestock systems in Tanzania: assessing opportunities to meet the triple win

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99. Predicting effects of cattle growth promoting technologies on methane emissions using TAURUS ration formulation software

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100. Farm scale greenhouse gas budget; grazing is smart

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101. Effect of ambient temperature on lactating sows, a meta-analysis and modeling approach

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102. Greenhouse gas and ammonia emissions from ceramsite covered compared with uncovered during dairy slurry storage

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103. Grass-legume mixtures enhance nitrogen yield over a wide range of legume proportions and environmental conditions

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104. Classifying livestock systems for public policy guidance: the example of Colombia’s livestock sector
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105. Influence of xylanase enzyme on in vitro methane production and rumen fermentation of tikiya (Eleocharis dulcis)
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106. The effect of sunflower oil and the phenolic essential oils on methane emission in dairy cattle
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107. Utilization of saline water by Barbarine lambs in the dry areas under climate change
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108. Impact of feeding and breeding interventions towards climate resilient dairying system in India
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109. Large-scale land restoration – creating the conditions for success
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110. Regional impacts of climate change and adaptation through crop systems spatial distribution: the VIGIE-MED project
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111. Interdisciplinary approach to climate change in an intensely-managed agricultural landscape in California, USA
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112. Building a shared representation of the landscape as a socio-ecological system and visualizing the challenges of CSA
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113. Climate-smart territory approach: for an effective address of Climate Smart Agriculture
114. Landscape scale assessments for strategic targeting of climate smart agriculture practices in East Africa
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115. The FACCE-ERA-Net Plus project “Climate smart Agriculture on Organic Soils” (CAOS)
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116. The potential of fish as a climate smart adaptation and mitigation strategy
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117. Water uptake in deep soil layers by tropical eucalypt plantations: consequences for water resources under climate change
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118. Land use practices among pastoralists as potential climate smart options for dry land ecosystems.
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119. Spatial models of farms territories, policy instrument and climate change: application in Chorotega (Costa Rica)
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120. Landscape management to develop agroforestry in Central-Africa
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4Projet CapMakala, Kinshasa, Congo Democratic Republic
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121. Governance for climate smart landscapes: a case from Makueni County, Kenya
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122. A landscape approach to co-designing climate change adaptation and mitigation strategies with farming communities
3rd Global Science Conference on Climate-Smart Agriculture  CSA2015 Montpellier – France

L3.5 Investment opportunities and funding instruments

125. Livestock farmers’ investment toward climate-smart production: impact of an incentive program in Chorotega, Costa Rica

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L3.6 25 million African farming families by 2025: science-development partnerships for scaling climate-smart agriculture

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L127. Microfinance and Climate Smart Agriculture: integrated farming system and social business

Cledera Allan1, Alcachupas Mary Ann2

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128. The CLIFF Network: breaking knowledge barriers for climate change mitigation research in developing countries
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129. Community Based Crop Insurance for Climate Risk Management
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130. Adaptation strategies for floodplain agriculture in Amazonia
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131. Afforestation and the unemployment nexus in the West African forest reserves localities: case study of Nigeria
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